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MENTAL DISEASE AND DEFECT

IN

UNITED STATES TROOPS

BY

CAPTAIN EDGAR KING
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No. 2. Papers by Officers of the Medical Corps, U. S. Army, read before the Fifteenth International Congress of Hygiene and Demography, January, 1913.

No. 3. Studies of Syphilis, by Charles F. Craig, Captain, Medical Corps, U. S. Army, and Henry J. Nichols, Captain, Medical Corps, U. S. Army, With Introduction by Frederick F. Russell, Major, Medical Corps, U. S. Army.

No. 4. Disease-Bearing Mosquitoes of North and Central America, the West Indies, and the Philippine Islands, by C. S. Ludlow, Ph. D., Anatomist, Army Medical Museum.

PREFACE.

In the sundry civil act for 1913, under the appropriation for printing and binding for the War Department, it was provided:

That the sum of $3,000, or so much thereof as may be necessary, may be used for the publication from time to time of bulletins prepared under the direction of the Surgeon General of the Army for the instruction of medical officers, when approved by the Secretary of War.

Similar provision was made in the sundry civil act for 1914, and it is hoped that this appropriation will be continued from year to year in the future. It is intended that these bulletins shall be used for the publication to the Medical Corps of the special technical work of the service laboratories, the reports of the boards for the study of tropical diseases, and other work of medical officers which is of too special or technical a character to make it acceptable for publication in the medical journals and the military surgeon.

The bulletin will be published, if possible, at least quarterly. Officers of the corps are requested to submit suitable articles to this office for use in the bulletin, with the understanding that they may be published elsewhere by the author if found not suitable for the bulletin.

CHAS. M. GANDY,
Acting Surgeon General, United States Army.

SEPTEMBER 24, 1913.

ORDER.

A board of officers of the Medical Corps, representing the sanitary and statistical division and the Library of the Surgeon General's Office and the laboratory of the Army Medical School, is hereby convened for the purpose of collecting materials and arranging for the publication of the bulletins for the instruction of medical officers authorized by the act approved June 23, 1913.

Detail for the board:

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Maj. William J. L. Lyster.
Maj. Eugene R. Whitmore.

CHAS. M. GANDY,
Acting Surgeon General, United States Army.

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INTRODUCTORY REMARKS.

MENTAL DISEASE AND DEFECT IN UNITED STATES TROOPS.

That the mentally diseased and those who are congenitally or otherwise mentally defective form an important problem in armies and navies we think no one who is familiar with the subject will deny. From the Surgeon General's report for 1913 we learn that the total discharges for mental alienation in all its forms amounted in 1912 to practically 20 per cent of the total discharges of enlisted men for disability from disease or external causes; practically speaking, one-fifth of all such discharges. The discharge rate per 1,000 was 2.64; higher than for any other class of disease; tuberculosis, including all its forms, being next with a rate of 1.56 per 1,000. The total number of men discharged on account of disability from all causes during 1912 was 1,069, hence it is readily seen that more than 200 soldiers were found to be mentally diseased or defective during the year.

During the same period 22 officers were retired on account of disability. Of these 2 had mental disease, this number being exceeded by only 2 conditions, "organic heart disease" and "deafness," which caused 4 and 3 retirements, respectively.

The above-given figures for mental disease do not include the discharges and retirements for neurasthenia and hysteria, which may, in most instances, if not in all, be considered to be mental diseases, the patients, as a rule, of course, not being "insane" in the usually accepted sense. If these conditions were included, the numbers would be appreciably increased. Congenital defect states (defective mental development) are included in the above figures.

We will in this study point out the chief individual diseases, the sufferers from which make up the totals above given, with more or less extended remarks upon each disease or condition as warranted by its importance, numerically and otherwise. Our study is based upon cases observed at the Government Hospital for the Insane since June, 1912, but in giving numbers and percentages only the period between June 1, 1912, and June 1, 1913, will be considered. Only cases which were admitted directly from the Army or from military prisons will be included in the figures given, those coming from the Soldiers' Home or from civil life on account of former Army service being excluded, although those from the Home come under the observation of Army medical officers.

No argument is needed on our part to emphasize the importance of the study of mental diseases by medical officers. The above figures speak for themselves.

Chapter I.

DEMENTIA PRECOX.

This is the most frequent form of mental disease with which we have to do in the military service. There were admitted to this hospital, from military prisons and from the active list of the Army, cases as follows: From June 1, 1909, to June 1, 1910, 51 cases of dementia precox. Of these, 2 were commissioned officers, 4 were general prisoners, the remainder enlisted men.

From June 1, 1910, to June 1, 1911, 31 cases of dementia precox, no officers, 3 general prisoners, and 28 enlisted men. From June 1, 1911, to June 1, 1912, 26 cases of the same disease, 1 officer, 3 general prisoners, and 22 enlisted men.

From June 1, 1912, to June 1, 1913, 51 cases were so diagnosed. Of these 3 enlisted men and 2 officers were of the paranoid type, 1 officer, 6 general prisoners, 1 civilian teamster, and 25 enlisted men were of the hebephrenic form, and 13 enlisted men suffered from the catatonic variety of the disease. During the year a total of 77 enlisted men, 4 officers, 7 general prisoners, and 1 civilian employee were admitted directly from the service or from military prisons.

A comparison of the above figures shows that of a total of 89 admissions, 51 could be certainly diagnosed as dementia precox in one of its forms, a percentage of 56+. Approximately the same percentage of admissions during the other years were of this disease.[1] The hebephrenics constituted 64+ per cent of precox cases admitted, and 37+ per cent of the total admissions during the year. Catatonic cases made up 25+ per cent of all admissions for precox during the year, and 14+ per cent of all admissions. The paranoid amounted to 9+ per cent of all admissions for precox and to 5+ per cent of all admissions from the sources under consideration.

Approximately the same percentages for type apply to admissions during recent years prior to the one for which figures are given.

More, then, than half the mental diseases with which we meet in the United States Army, requiring asylum treatment, are of the one form, dementia precox. The cases so diagnosed during the past year have in only a few instances been at all doubtful; it can be taken for granted that few if any errors have been made, as the vast ma-

[1] L. L. Smith (Military Surgeon, 1911) reports that from 1905 to 1910 47 per cent of all military patients received at Government Hospital for the Insane suffered from dementia precox.

jority of cases so diagnosed have been in such a stage of the malady as to leave no doubt as to its nature.

It must be remembered that the number of cases admitted here does not represent by any means all those which arose in the service during the period under consideration. Quite a number[1] were returned directly to their homes, there to be cared for by State or family; undoubtedly a few cases without pronounced symptoms beyond mental enfeeblement were diagnosed and discharged as "congenital feeble-mindedness;" some, no doubt, whose symptoms were in abeyance were discharged and allowed to go their way, though the disease was recognized, "not being dangerous to themselves or others." A few soldiers reached us with symptoms in remission, were held for a time and discharged from hospital as "not insane" since being here; that is, they had shown no symptoms of a psychosis while under our care, by which we were able to make a diagnosis or which warranted their retention. Judged by their history all had been insane while in the service hospitals, and at least two or three of these "not insane" were precox cases in a quiescent period. These facts tend to swell the number of cases of dementia precox actually dealt with by military surgeons during the year.

How many of the soldiers who deserted during the year, who were dishonorably discharged on account of "previous convictions by summary court," or who committed or attempted suicide, were mild or unrecognized cases of dementia precox we have no means of knowing, though there is no doubt that not a few were. In all such cases where possible a careful mental examination should be made whether or not there is any outward evidence of a psychosis and should include a searching inquiry into the life history of the individual.

The admissions to asylums from the general population show this disease to constitute from 15 to 25 per cent of all admissions. Our higher percentage in the military service is due to the fact that nearly all of our "population" is composed of young individuals.

HISTORICAL.

Jelliffe gives a historical summary of this disease which is interesting (1). He finds descriptions of cases as early as 80 A. D., which may be regarded as having been what we now call dementia precox. He quotes as follows from Willis, the English anatomist who wrote in 1672 "many young people, in childhood intelligent to a degree and extremely teachable, so that by their learning and conversation they swept everyone with a state of admiration, afterwards as they grew older turned out stupid and dull, and those who before were very

[1] Exact number not available.

beautiful in person afterwards presented no grace or comeliness in their appearance."

Probably those were cases of precox disease. From that time until Pinel's treatise in 1809 the cases are described by many terms more or less descriptive of the symptoms of the patient. Some authors in this period described more than 100 types of mental disorder. Pinel and his follower, Esquirol, greatly reduced the number of types of "insanity" from more than a hundred in the case of some authors to the five of Esquirol, mania, lypemania (melancholia) monomania, dementia, and idiocy. Jelliffe says that in the classification of both Pinel and Esquirol the cases now known as dementia precox are to be found described under several headings, especially though under Idiocy.[1] Esquirol speaks of acquired or "accidental" idiocy in the following terms: "Children are sometimes born in a state of perfect health and grow at the same time that their understanding develops itself, but possess an unusual degree of susceptibility, are lively, irritable, choleric, of a brilliant imagination, a well-developed understanding, and an active mind. This activity not being in relation with the physical forces, they exercise and speedily exhaust themselves. Their understanding remains stationary, making no further advances, and the hopes recently raised so high are dashed forever. This is "accidental" or "acquired idiocy"(2).

Some if not all of these cases must have been dementia precox. Suffice it to say that until the early sixties of the nineteenth century the various forms of dementia precox were observed and clinically described so as to be recognizable, but they were called by various names and grouped in types with various other forms of mental disorder, no one discerning their true place as now seen. In the article cited (1) is given one of Esquirol's case histories which the author says is the first which can be recognized as a precox case whose clinical history is preserved. The disease, then, has always existed, but has not been separated from others though descriptions of it have been left. As we will have occasion to speak of primary and secondary dementia it may be well to define the terms as formerly used. A primary dementia was characterized by a more or less complete weakening of the faculties of the mind, not secondary to any other form of "insanity," but beginning as such in a person previously sane (3). A secondary dementia was one in which there was a "decay of the faculties of the mind" as a consequence of some pre-existing form of "insanity."

The history (4) of the development of the conception of dementia precox is, in a good part, the history of the development of theoretical psychiatry in general. (A good account is given in Kraepelin's "Psychiatrie," fifth edition, 1896.)

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[1] Idiocy, "congenital" or "acquired," made up more than 20 per cent of his cases.

It had long been observed that a part of the acute (functional) psychoses recovered and a part became chronic (resulted in permanent mental defect). It was also noted that the "primary dementia" resulted in the same type of chronic mental infirmity which succeeded acute psychoses. Esquirol spoke of "accidental" or acquired idiocy (dementia) as distinguished from congenital idiocy. It had also long been known that young persons were especially apt to suffer from such dementing processes, therefore Morel gave the name Démence précoce to them. But no one found the unity in this chaos of symptom pictures, outwardly different but leading to the same end, dementia (and of a peculiar type essentially different from that seen in other dementing processes—paresis, senility, etc.). The belief (erroneous) widely held about the middle of the nineteenth century that the psychoses or a psychosis must pursue a certain definite course, usually ushered in by a depression, was a great hindrance to advancement. Kahlbaum's ideas marked an advance. The clearer heads before him had, of course, seen that the old terms mania, madness, melancholia, delirium, etc., described only clinical pictures of conditions, and were not representative of any definite disease entity or process. (We now know that any one or all of these states may be seen at some time in the course of almost any mental disease; they are in reality only symptoms). Psychiatrists, however, not being yet in a position to speak of disease entities mostly used the symptomatological classification. Kahlbaum sought with clear aim to make the symptom-complex representative of a definite disease. He first used the term catatonia in 1863 in his "Grouping of mental disease," first gave an exact description of it in 1864, and in 1874 published a monograph on the subject. Kahlbaum's "catatonia" was a disease which must course through the several stages melancholia, mania, stupor, confusion, and, finally, dementia. It was also characterized by physical symptoms which he regarded as somatic in the same sense as the physical symptoms of paresis. We now speak of these as "catatonic symptoms" (and they are considered by many and probably are mental in origin). Since that time "catatonia" as a definite disease has never wholly disappeared from the literature, but has been recognized as such only by a minority of writers from the apparent fact that a typical case in Kahlbaum's sense was a rarity and there was no way of definitely delimiting the disease (naturally enough, his conception of the course of the disease condition having since been proven erroneous). (The cases which he studied would now be classified as catatonic dementia precox.)

Hecker, a pupil of Kahlbaum's, in 1871 described hebephrenia (insanity of puberty or youth). Kahlbaum partially connected this with catatonia and then widened the whole group by his descrip-

tion of the heboids (simple dements), heboidophrenia being itself a mild form of hebephrenia. Schuele had already called catatonia a hebephrenia with a "tension-neurosis" attached.

In opposition to Kahlbaum, others came to speak of the "dementing psychoses of degeneracy" (family degeneracy as well as individual) after Morel had shown the importance of heredity in the etiology. Later than to catatonia and hebephrenia, attention was given to "simple" or primary "dementia." Pick, in 1891, and especially Sommer, in 1894, gave good descriptions of catatonia and of the different forms of "primary dementia," in which hebephrenia was separated from the others. Sommer widened the concept in the right direction by attaching to it the "primary dementias" of paranoid type (with persecutory and grandiose delusions). In his system he still separated catatonia from the others, regarding it as a separate disease.

In 1896 Kraepelin united the various "dementing psychoses" mentioned above, the basis of the union being an assumed common etiology which he thought must be poisons produced by metabolic disturbances.

He first gave the name "dementia precox" only to the "hebephrenia," and "primary dementias" of the other authors; he called those forms with predominating catatonic symptoms "catatonia"; those much rarer conditions which show hallucinations, rapid in origin, with unsystematized delusions of paranoid trend, with relatively well retained outer deportment and in which the dementing process came to a rather quick stand, "dementia paranoides." Three years later he first united all these forms under the name "dementia precox." Catatonia became the catatonic form of dementia precox and the cases included under it remained practically the same; hebephrenia became the hebephrenic form and dementia paranoides became the paranoid form of dementia precox.

NATURE OF THE DISEASE.

"The fundamental symptom of dementia precox is stolidity of conduct." (Tanzi.)

"The unity of dementia precox depends upon the fact that all other forms of insanity (mental disease) impel the patient to a definite conduct and have their psychological basis either in affective (emotional) disturbance, delusional convictions, errors of perception, loss of memory, dulling of consciousness, or of intellectual acuteness. * * * Dementia precox, on the other hand, does not affect the contemplative function of intelligence, but consists in a systematic discontinuity of thought and action, which is neither possible nor conceivable from the point of view of (normal) psychology. * * *

Indeed, the will of these patients does not act under the influence of motives (at least not of motives as normal persons conceive them), but through the operation of purely organic stimuli, which have no psychical correlative" (5) (in the world as we see it). (Words in parenthesis mine.)

Glancing at the general psychic (mental) condition of precox patients Kraepelin (6) notes two chief forms of disturbance. One is a weakening of every emotional impulse, which impulses he believes form the mainsprings of action in our mental life. In connection with this is a blunting (greater or less) of mental activity and ability. The result of this is an "emotional deterioration" or dementia (a failure to respond to action-inciting stimuli from the outer world or the inner consciousness), a certain failure of mental power (loss of ability to think, to associate one set of facts with another), loss of power over the will, loss of ambition (desire to do), and loss of ability to lead an independent existence. Thus the germ of the personality is destroyed; the best, most valuable, and most indispensable part of it has, as Greisinger well said, "slipped away." With this annihilation the possibility of further development is destroyed. All that remains is what has already been acquired, and even this goes, slowly or quickly as the case may be, at least in the great majority of cases. Kraepelin believes that the purely intellectual faculties are involved in the disease process, though in a far less degree than are the emotional life and the will. However, in some cases the memory and acquired knowledge may remain practically unimpaired throughout the course. (Usually these are of the paranoid type and they are very rare.)

The second great disturbance of the psychic life has been especially studied by Stransky (quoted by Kraepelin) (6). It consists in the loss of the inner unity of action between the intellectual abilities and the emotional life and the will. Stransky speaks of a loss of the "intra psychic coordination." (Bleuler's "association disturbance.")

The close connection between (emotional) feeling and thought is greatly impaired; between reflection and emotional reaction on the one side and action on the other the connection is more or less destroyed; the ruling emotion does not correspond to the ideas at that time present in the mind of the sufferer.

The actions of the patient are not, as in the normal the reflection of his views of life and his emotions, they are not the result of conceptions and moods well considered and deliberated upon, but are the uncalculated consequence of accidental external influences as well as equally accidental influences from within, which may invite him to conduct of almost any nature.

It seems to Kraepelin that between these two disturbances an inner connection can be discerned; his experience teaches him that

the "general ideas and conceptions" must put each part of the mind into its place. They bring about the overcoming of difficulties and insure a uniform peace of the emotional life. They work from one side as means of adjusting ourselves to emotional events, and on the other give to our mood (habitual) a certain coloring if no emotional event is just then present, inner or outer. The inner unity of our wishes is brought about finally by strong will adjustment as a result of our hereditary power and our personal development. We may then assume that a weakening or cessation of these influences, "the general ideas," "the higher feelings," and continuous general will adjustment must react on our thinking, feeling, and acting, must show the inner splitting, "schizophrenic" disturbance seen in precox.

Bleuler (4) prefers as a name for the cases comprised in the dementia precox group, schizophrenia (splitting of the mind), because he holds that the essential factor in the disease is "the disunion of the different mental functions." He looks upon the disease as being due to a physical cause primarily, which cause is unknown. This causes a certain primary disturbance in every case. To quote him (4), pages 6–7: "In every case there is more or less definite cleavage of the mental functions; if the disease is outspoken the personality loses its unity, sometimes this, sometimes that 'complex' (series of ideas which are associated around a common central idea of great emotional value) becomes representative of the personality (of the patient). The reciprocating (coordinating) influences[1] formerly operative on the different complexes and aspirations are either diminished or actually destroyed.

"The 'complexes' do not flow together as in the healthy as a collection of strivings with a harmonious result; a certain 'complex' predominates in the personality for the time being, the other constellations of ideas and strivings being 'split off' and wholly or partially without effect in the mental life. Ideas are also often not clearly borne in mind and fragments of ideas become attached in a wrong way to new ideas. In this way a conception is incomplete and is wanting in one or several, often essential, components, indeed may even in some cases be represented (in the mind) (consciousness) by only a single partial idea.

"The association ability is also often limited by fragmentation of ideas and conceptions. In this way their ideas become not only incorrect but sometimes bizarre, considered from the healthy standpoint; often also they stop suddenly in the middle of a thought, or jump suddenly to another thought, at least so far as outward appearance goes (blocking); instead of the continuation (of the previous thought) many new ideas then appear, which neither the con-

[1] Kraepelin "higher feelings," etc.

sciousness of the patient himself nor of the observer can bring into connection with the previous thought content."

"In all cases of this disease except the mildest the emotional reaction to different experiences is not in correct relation to the experience (as viewed by normal minds) and many vary in intensity indeed, from a total failure of emotional reaction to one thought complex, to an excessive reaction to another." (Emotional dementia of Kraepelin.)

Bleuler, then, assumes that there exists a primary disease process which produces an association disorder and "cleaving of the mind" and then that the acute symptoms (delusions, hallucinations, etc., all the usual clinical signs of the disease) are brought about by the operation of, on this thus diseased mind, certain psychogenic factors, necessarily different in each case. (This, at least theoretically accounting for the diversity of clinical signs.) For him dementia precox or "schizophrenia with active symptoms" equals disease process (character and cause unknown) plus psychogenic factors (necessarily different in each case, various mental conflicts, etc.).

But in other words the patients with Bleuler's schizophrenia are all similar at two stages of the disease. They undergo the same disease process primarily, and the end result (dementia) is the same, varying only in degree. The acute symptoms will vary somewhat in each case.

Bleuler's schizophrenia includes very many more cases than does Kraepelin's dementia precox, though all of the latter belong in it, as we shall see.

August Hoch has an excellent review of Bleuler's book in the July, 1912, (7) number of "The Review of Neurology and Psychiatry," Edinburg.

In it he states, "in discussing the book it is necessary first to be clear as to what Bleuler means by schizophrenia and what he includes in this group, because it comprises a great deal more than the group of dementia precox, such as others conceive it. It contains all paranoid states, which are not the typical Kraepelinian paranoia," most psychoses which arise on the basis of psychopathic inferiority, probably many cases, which in order to emphasize certain impurities in the clinical picture we here (in the New York State hospitals) call "allied to manic depressive insanity," and indeed not a few cases which we would not hesitate to group as typical manic states; furthermore, the transitory hallucinatory and paranoic states, and Bleuler even suggests that the acute alcoholic hallucinosis belongs here entirely; again, all the chronic alcoholic paranoic or hallucinatory states; the prison psychoses, and as we shall see many states which we prefer to call "abnormalities of make up." Hoch further

states that this group of Bleuler's includes practically all of the functional psychoses except manic depressive insanity, a few Kraepelinian paranoias and a few cases of hysteria.

It may well be asked how does he arrive at such a conclusion, it being readily seen that he includes an enormous number of cases in this group.

He assumes, first, an underlying disease process, nature unknown, possibly toxic, and that this produces the association disorder and "mind cleavage." We may assume, then, that in all of the cases in which he considered this primary disorder of the mind to be present he diagnosed schizophrenia. He considers that many, perhaps the majority, of schizophrenics are what he calls "latent" cases, in which exist only the disorder just named, and these seldom need asylum treatment. But when to this are added other signs, which are the symptoms of the disease as we have heretofore considered it, the disease becomes "active schizophrenia" (dementia precox as usually conceived). In our work we consider as dementia precox those cases which Bleuler classes as "schizophrenia with active symptoms." We practically follow Kraepelin's ideas in making our diagnosis. Bleuler's ideas are highly interesting, but whether the group is as extensive as he conceives it to be, time and study will tell. At present we can not so consider it.

As to the functions of the mind which are and are not disordered in dementia precox Bleuler (4) speaks of first "the single functions," dividing these into those which are "intact" and those which are "altered."

The "altered" single functions are chiefly the power of association of ideas and the emotions. As the principal "intact single functions" he gives perception and comprehension, orientation, memory, consciousness, and motility. He does not look upon these as being entirely unchanged during the course of the disease, but as so, generally speaking, and when changed the change is not due to the disease primarily, but to other factors.

He speaks, then, of the "combined functions," the attention, intelligence, will, and behavior. He says that naturally they are much disordered, in that the single functions so necessary to them, especially the association of ideas and the emotions, are so altered. As a principal change he describes an altered relation of the patient to reality, a desire to shut himself entirely off from all contact, mental and physical, with the outer world, to retire within himself. This he calls "autism," and it is indeed a characteristic sign in active precox cases. Highly interesting as are his remarks we can not quote more here.

THE CAUSE OR CAUSES OF DEMENTIA PRECOX. AGE OF ONSET.

Little is really known as to the cause of this disease despite a very great amount of study expended upon it by various observers in various countries. Kraepelin (6) says "over the cause of dementia precox there hangs to-day an impenetrable darkness." According to him and other authors the vast majority of cases have their onset in the second and third decades of life. The age on admission in our cases varied from 19 years in the youngest to 46 years in the oldest.

In the latter case the disease had existed for at least 20 years, and was of the paranoid variety.

The ages on admission of the paranoid cases ranged between 36 and 46 years.

Of the catatonics 7 were between 20 and 30 and 6 between 30 and 35 on admission.

Of the hebephrenics 24 were between 20 and 30, 1 under 20; the remainder were under 39 years of age on admission.

In some of the cases the history showed that in all probability the disease had been in existence for years, but we have no means of definitely setting the time of onset in many of them. A patient may have really had the disease for many years, it beginning, perhaps, before his twentieth year, yet he may not, owing to the circumstances of his life, come to medical notice until he is many years older, perhaps 35 or 40 years of age. A case in point was one recently seen by us in a soldier admitted to the Walter Reed Hospital. He was a little past 35 years and had been enlisted a few months before. Was, according to his captain, never of any use in the company, and soon his attitude and manner were so unusual that he was sent to us there. His history showed that he had a very bad heredity, nearly all of his family dying with some nervous trouble, usually very young. He developed until about 18 much as other boys, if our history is reliable; at that age his family had to keep him indoors, because he heard so many "voices," the origin of which no one could ever determine. The voices told him to go to various places and do various things, all of which he attempted to carry out. Occasionally they called him names or "knocked" him. He also saw "visions" of various kinds at times, and complained of all manner of physical ailments, when in reality he was strong and healthy. He has continued since that age practically useless, but harmless, having the above-named symptoms the greater part of the time; yet he retained his acquired knowledge well enough to enlist without trouble, was perfectly oriented in all fields, and could give a good account of events of his past life, though not in a logical and connected way. He had no insight into the nature of his various unusual experiences, and looked upon them as real events in his life, though naturally he could give no explanation of

them. He manifested no great interest in anything while in hospital, seemingly perfectly satisfied, though complaining of numerous physical diseases. Many cases with apparent late onset will be found if a complete history can be obtained to have shown signs of mental change at a much earlier period. This is important in giving an opinion as to line of duty.

Undoubtedly this disease appears very often in persons with bad heredity. Opinions of different authors vary somewhat as to the per cent of cases whose histories carefully taken show hereditary taint; from 52 to 90 per cent. Kraepelin found hereditary taint in about 70 per cent of his cases (6). This author expressed the belief that the nearest we can come to the cause of dementia precox at the present time is that it is an autointoxication (self-poisoning) from some source, which sometimes develops insidiously, sometimes very acutely (6). As I understand him he believes it to be a physical disease of the brain, the result of the poison above mentioned, whatever may be its nature.

Jung and others have suggested a psychogenic origin for precox, with an added toxic factor.

Bleuler suggests a chronic poisoning from some unknown source. In reality we do not know what causes the disease.

GENERAL COURSE OF THE DISEASE.

Kraepelin's teaching is (6) that the general course and outcome vary much in different cases. On the one hand are seen cases which show a gradual, insidious, yet withal not striking, transformation from a state of mental efficiency to one of comparative or total inefficiency. In other cases without striking outward symptoms there develops within a short period permanent mental infirmity.

In most cases in which the beginning symptoms are clearly defined the termination is in the typical end state, the precox dementia. Kraepelin believes that a dementia precox process may be operative in an individual for years, or even a decade, producing changes in personality which are at the time of their occurrence unexplainable, but whose origin is finally made clear when frank symptoms of the disease appear. Some of our cases are of decided interest in this respect.

Numerous authors have emphasized the fact that this disease is characterized by periods during which the acute symptoms (delusions, hallucinations, and other symptoms) subside quite or almost entirely, to be followed by a reappearance of them after a time, varying from a few days to weeks, months, or years, even many years in some instances, eventually the patient becoming perma-

nently demented. This fact is well illustrated in some of the cases received by us at the Government Hospital for the Insane from the military service. The history from their station may show that they were delusional, hallucinated, perhaps greatly depressed or wildly excited, perhaps pugnacious. On arriving here they are found to be apparently free from all symptoms of an active nature, behave perfectly, and it would be difficult to differentiate them from normal individuals. This condition as a rule has not been of more than two or three months duration at the longest, often less than a month, then the old symptoms or new ones similar in nature manifested themselves, often continuing permanently or indefinitely. Those whose remissions continue over several months are usually discharged from asylums as "recovered" or "social recoveries."

This fact, the occurrence of remissions of practically all symptoms, but without actual recovery, is of great importance from a military standpoint; as said above, quite often patients leave hospitals during such times, not rarely in the care of relatives. They are not well, but are capable of living outside an institution, provided they have the oversight of some interested person. Not rarely they are unable after discharge to get along with their relatives, or have a return of symptoms, and fearing return to the institution run away. Owing to their peculiar mental state they find it hard to obtain and especially to hold employment, often become penniless, and naturally are attracted by the posters of the recruiting service. As they are often of good physique, and may have no outward signs, at least to unexperienced eyes, of their disease, they may secure enlistment. Practically no precox patient ever has insight into his mental disease; they never come to believe they have ever been insane, so they can answer questions on that subject in the negative and be honest in their own estimation. Their symptoms and hospital life are usually very tender points and are assiduously concealed. The restraints and enforced close contact with others incident to life in armies, are particularly fitted to irritate and upset such "shut-in" characters as most precox victims are, hence it is not long until active signs of mental upset again appear. In all cases in which precox symptoms develop a careful search should be made for evidences of previous existence of the disease.

The fact that the precox process (whatever it may be) may be present and producing changes in the mental life, and coincidently in the character and conduct, of a person for months or years before the frank symptoms of the disease become manifest may help to explain certain cases which arise and should always be borne in mind—young soldiers who persist in repeated alcoholism; those who desert without apparent cause and shortly afterwards reenlist fraudulently, knowing, as they do, the almost certain punishment to

follow; men persistently insubordinate in minor ways; those who are neither good soldiers nor bad, who seem, despite an apparent liking for the service, to be practical failures in it; men who are always "in bad" with noncommissioned officers; in general, those whose ability and conduct is not up to what it should be, and yet there seems to be no apparent reason why it is not. Often they are men of good intellectual ability, but seem to be unable to "get along." There are men who are persistent sexual debauchees, and, to again generalize, young soldiers who, on consideration of their record, do not seem to be of real value to their organization, yet there appears to be nothing tangible on which to base a recommendation for discharge. We fully realize that there may be many causes for such states of inefficiency as we have briefly outlined above, but after careful study of them it seems to us that the cause of their inefficiency must be first sought in their mental life, and our experience has been that it will often be found there in some form—either congenital or acquired. By no means do we attempt or desire to explain or excuse all infractions of discipline and neglects of duty on the ground of some form of mental incapacity, but we do hold that very many more cases can be explained on such grounds than is generally believed. To go into further details would take entirely too much space, but we strongly believe that in such cases as are outlined above a careful mental examination will often disclose enlightening facts. If the surgeon with the troops is not satisfied as to his own findings, it might be well in selected cases to send the patient to a general hospital for observation.

In some cases it seems quite probable that young men may have suffered from this disease for months or years prior to enlistment and have shown no striking or recognizable symptoms, perhaps getting along after a fashion in the shelter of their parents or friends. Yet very soon after entering military life, in which regularity of doing and speaking, one may say even of thinking, are required—three things distinctly foreign to the precox make up—pronounced signs of mental disturbance appear.

The prognosis of the disease, generally speaking, is exceedingly unfavorable as to restoration to the normal mental condition. It is not in itself especially dangerous to life, though according to the best authorities it tends to shorten life even when the patients are in a good institution. They may live to be very old. We have a patient here who was admitted as a private, Second Infantry, in June, 1859. Presumably his is a precox case. His case number is 273, and the current numbers have almost reached 21,000.

As to recoveries in dementia precox some writers of note hold that none recover; that, however well the patient may seemingly be, there is always some defect remaining. According to Kraepelin

about 8 per cent of cases which are clinically hebephrenics and 13 per cent of those who are clinically catatonics improve to such a degree that they may for practical purposes at least be classed as recovered. As stated above, many cases which finally dement may show remissions of symptoms for varying periods of time. No cases of paranoid precox ever recover. Moderate grades of improvement may occur. They may after years become more or less indifferent to their delusions. The dementing process is very slow in them and may never reach a very high grade. In our cases received from the military service during the past year there has been no improvement worthy of the name in any paranoid case. Three catatonics have improved sufficiently to be discharged as "recovered" or "social recoveries." Others may so improve in time. Our own opinion is that the recovered cases still showed defect, but all active symptoms had disappeared, and they were perfectly able to live in society for the time being.

Of the hebephrenics, all the military prisoners so suffering have steadily grown worse. There was a very moderate degree of temporary improvement in the one officer admitted. About 25 per cent of the enlisted men so admitted showed sufficient improvement to be allowed to go, usually being carded as "social recoveries." Our opinion is that in all likelihood none of them were really well and will eventually—maybe not for years—have a return of active symptoms. Others may later improve, but their prospects are at present everything but good.

SYMPTOMATOLOGY.

[Mostly from Kraepelin (6), quotation marks and parenthetical inserts ours in most instances.]

Dementia precox is one of the two forms of "endogenous dementia," and Kraepelin devotes several hundred pages to its consideration. He considers it essentially from a clinical standpoint as being a physical disease manifesting itself by symptoms of various kinds, both mental and physical. "Endogenous dementia" is a term under which are collected a series of disease conditions whose various clinical forms are not yet clearly co-related, but which show the same common property, that they without demonstrable outer cause develop from factors resident within the economy and that they lead in at least the great majority of cases to frank mental infirmity (dementia) greater or less in degree. Though this permanent infirmity varies much in degree in different cases when contrasted with such conditions as paresis and senile dementia, yet the various cases have many features in common. "On this ground I have described these cases as 'dementia precox' (an entity), and Blueler has

included this group in his 'Schizophrenia'" (which also includes much more than the dementia precox group; see above). Kraepelin holds that it is an open question (not yet proven, but very probable) whether all these forms so different clinically, are not due to the same basic causes, and differ only in having a dissimilar symptomatology (the ending being quite similar qualitatively in all cases).

GENERAL SYMPTOMATOLOGY.

(*a*) MENTAL SYMPTOMS.

Dementia precox comprises a group of clinical pictures whose common symptom is a peculiar disorganization of the inner connections of the psychic personality with predominating injury to the emotional life and the will (p. 668). He sees no advantage in changing the name of the group, though many new names have been suggested. The variability of the clinical pictures included under precox is great, and their common origin can be understood only by seeing the similar course pursued by all (p. 670).

Orientation.—Orientation for time, place, and person is mostly undisturbed; only in stupor and states of great anxiety or excitement may the conception of the surroundings be clouded for a time; it may even be retained in states of great excitement. Sometimes the ideas as to orientation are influenced falsely by delusional beliefs or hallucinations (pp. 683–684). (As will be readily seen the patient may often answer "I don't know" to questions in regard to orientation when it is quite evident from his manner and further conversation that he is oriented. Indifference often prevents their learning anything about date, person, etc.)

Comprehension of surroundings.—Comprehension of external happenings in his environment is in most cases not greatly impaired. Usually they truly perceive their surroundings, often much better than one would believe possible from their apparent condition.

Attention.—Is usually very much disturbed. Quite generally they lose their ability to focus it effectively and continuously on any one thing. Their attention is often difficult to gain; they can not be gotten to attend to what is being said or read to them, though at the same time they perceive accurately what is transpiring about them. In stuporous or much deteriorated cases there is often no reaction to the strongest stimulus. They perceive events but disregard them, even those of greatest importance to themselves (pp. 671–672).

HALLUCINATIONS (FALLACIOUS SENSORY PERCEPTIONS).

In cases whose development is acute or subacute these are rarely absent, and they may be present in any case (but may sometimes be absent, or at least can not be elicited). They often persist through-

out the course of the disease, though as a rule they gradually diminish as time passes, and in the later stages are not pronounced (after awhile the patients often come to disregard them and may deny their existence when they really are present).

Auditory hallucinations are by far most frequent and annoying. They often begin as simple "noises" of various kinds heard in one or both ears, and gradually develop into "voices." Patients have various ideas as to the origin and location of these, but usually seek them in the outside world. They may be heard constantly or only at times. "Voices" usually say things which are unpleasant and incite to anger, and very often are accusing, charging the patient with having committed various irregularities, especially of a sexual nature. On the other hand there may be "good voices" defending, reassuring, or even complimenting the patient. Both "good" and "bad" voices may be heard at the same time, one or the other predominating. "Voices" or other agencies often comment on their thoughts and actions. Later (or even at times early) the content of the "voices" may be indifferent, senseless, and apparently without meaning.

The following are fair examples of the type of auditory hallucinations seen in cases admitted from the United States Army: One hebephrenic said "Heard all kinds of voices imaginable in hospital at Presidio," some of the fellows in the company got to using some vile language and telling him he was "all sorts of a sexual pervert and degenerate" (these voices were very frank and called everything by its right name. This type of "voices" was very common with us).

Another (hebephrenic) denied hearing any "unnatural voices," but said his comrades both in his company and outside called him "bad names"; said he could not name his accusers. "I know they spoke bad of me right in my presence, seemed to criticize my looks, and told me what an evil appearance I had." Accused him by insinuation of being a sexual pervert, etc. This was done "to get his goat." A catatonic case: Do you hear voices? "Yes." Where? "Right up there" [pointing]. Whose voices? "The air; the clouds are in the air." They said, "Keep near," which he said meant to him "stay where you are."

One colored hebephrenic heard, at Camp McGrath, P. I., the voices of two women in Chicago; talked over telephone to some one a long way off. At Presidio, when he pressed his head against his pillow, he heard all kinds of noises—wagons, trains, birds, chickens, hogs, dogs, everything; at time of examination hears a violin and harp playing above him. A hebephrenic said he heard voices "at times, off and on; they catch me in the back of my neck and say

dirty, bad words, some good words; come from people whom he can not see but whom he can hear, also from a phonograph."

To a very intelligent hebephrenic it seemed that people talked about him, "in their voice they repeat everything I say," can read his thoughts, never abuse him. At the moment of the examination voices are upstairs repeating what I say to him. He does not know who they can be unless people who thought a great deal of him in the past.

Another hebephrenic was rather unruly because of commands he received from birds in the trees and dogs in the distance. The same man jumped overboard in San Francisco Bay because he heard an officer's daughter in the Philippine Islands say she was in trouble on his account and he could get her out of trouble by killing himself. He had very numerous and changeable auditory hallucinations.

A general prisoner (hebephrenic) heard voices moaning and groaning under his bunk, heard people say that he would be killed, a pin stuck in his heart if he moved (he lay still); replied to certain voices, asked if they talked of him, they said no.

A young catatonic heard "a little bell," which he located quite near his left eye. He also heard something boiling, it seemed to him to be getting hot, located near his face.

A hebephrenic received wireless messages from long distances; another heard his cousin, who lived many miles away, telling people how to treat him.

Visual hallucinations may occur often, though by no means as frequent as auditory ones; may be of many kinds, usually bizarre in character (p. 679).

Examples from our cases, 1912–13:

A hebephrenic saw a white light in front of him "right outside like a silver ball, went up and back." A colored hebephrenic in the Philippine Islands saw "his mother, lots of white ladies and gentlemen that he knew, some negroes" (people were in Chicago); also saw a lot of very fantastic and weird animals.

A hebephrenic saw one night two shadows like a horse's head, jumping around on the ceiling.

One hebephrenic said: "I've seen everything in Washington; saw the President in the ward." Also some soldiers, dismisses the subject, "I saw nothing to amount to anything; I am looking for a ghost."

Another saw his "people in his sleep." A hebephrenic almost every night saw his wife whom he had deserted years before. She talked a little to him, he saw only her face at times.

The same catatonic who heard the "little bell" saw a ship in his bed going up and down, to him this meant "get up yourself." He

also saw a picture which was "clear white like this" (shows a brownish piece of rubbish), located this picture in the air about 2 inches in front of his right ear. At other times he has seen a little ball in front of his face. A hebephrenic had a rather elaborate vision suggesting a dream. Another, a catatonic saw "black forms in the shape of human beings." Another saw visions of a cross.

Hallucinations of taste and smell.—These may occur isolated, but owing to the rather close interdependence of these senses in the normal, the hallucinatory experiences related to them quite usually assume a mixed form (p. 681).

Examples from United States Army cases: One hebephrenic had "a funny taste in his throat, it burned like a disease," he "smells gases when he goes out on the veranda." Another said: "One time when I came off guard I ate a piece of pie and afterwards my mouth was burned." Another "smelled gas in the bughouse at the Presidio," he "guessed it was ordinary gas, but didn't know who put it in his room." Another said there was poison in his food, but he ate it just the same, as nothing could kill him. Another said: "They must have doped me; I didn't see it, it must have been in the food; sometimes it nearly took the hair off my head." One said: "My food tastes bitter and then sweet."

Hallucinations of touch and "organic sensation."—These play at times a very important part in the symptomatology. They may take the form of various feelings of disturbance in the organs or parts of the body and usually are bizarre in character. (Patients are often very hypochondriacal.) Examples from United States Army cases: One hebephrenic said that they tried batteries on him at his post, but he didn't feel them, as they were only applied "mentally." This may not have been an hallucination. Another had a feeling of something on the "palate of his tongue" with which he can cause music and make rain fall and stop it when he so desires; at the Presidio when he lay in bed for a long time and the "small" of his back became hot, he then felt electricity.

Another felt his strength leaving him, going out through the floors and walls. Another said "I was given medicine all over, in my arm, in my back, my head, and all over;" he believed the medicine was poison. Another said they turned electric batteries on his bed, then, at the same time, he heard and saw everything imaginable.

A catatonic, who was very inaccessible, surly, pugnacious, and irritable, washed his head many times a day because it felt full of vermin. He also accused a physician of "playing a piano on my head." Later on, he accused the same physician of disarticulating his tongue, tying up his intestines into knots, and of putting the vermin into his head. This physician, he says, also uses certain instru-

ments to torture him. These ideas may be considered as hallucinatory or delusional in origin.

A hebephrenic felt his "blood circulating clear around;" "it bothers my back." His bladder seemed to leak, he says "It feels cool, and sometimes I find myself wet where the water has leaked out." Pointed to a spot on his abdomen as site of this opening. A catatonic was "full of electricity, probably came from his ring;" another said "They played electricity on me coming here," and thinks it was done by unknown persons who were having fun with him. One patient "felt electricity twice; it came in through the window."

Beliefs by patients that their thoughts and acts are influenced.—What is very characteristic of the disease is the reading by others of the patient's thoughts. They complain again and again (often in our cases we have only elicited this delusion by direct questions in regard to it, though many also spoke of it spontaneously) that their thoughts are read or taken by others; they may hear their own innermost thoughts as "voices" or noises, someone gives their every thought to the world; he may believe that what he thinks all who are near, or even all in the world, can hear. Persons and agencies may influence his thoughts and his health in many other ways. His thoughts are distorted by these agencies; he is hindered in, or kept from thinking; he must think as the "voices" say, etc., and so on. All sorts of mechanical devices may be mixed up in this—telephones, wireless machines, phonographs, etc.

Illustrations from United States Army cases.—One patient said that his only trouble was that something "blocked" his mind.

A hebephrenic complained that his comrades read his thoughts, at least some of them did; he is not sure how they did it, but he thinks it was by concentrating their stronger brains on his. He also believed they could hear his thoughts, and that at times he could hear his own thoughts, but he isn't sure.

A hebephrenic averred that his ears were "stopped up," therefore he could not think as well as formerly, but the only explanation of this he can give is that his head aches a little, feels "funny." He also said that people read his thoughts, being able to do so because the doctors gave him some peculiar medicine.

A hebephrenic described a very peculiar experience of his in San Francisco. He was "morphidized" (phonetic spelling) six times there. This he explains as a sort of influence or power which came upon him from drug stores or corner houses, and made him sleepy. It often occurred at night. A paranoid case stated that one of the physicians here made it his business to read the thoughts of himself and other patients, and in that way did them great injury.

A colored hebephrenic said: "I have been made to talk a great deal here. I do not want to talk but for some cause I must talk."

He gets messages through this influence that make him talk. He has no especial powers but some one has power over him. The district attorney in North Dakota reads his thoughts all the time. Another said that it seemed as if people talked about him. "In their voice they repeat everything I say; they read my thoughts; the air seems to be full of mystic talking and speaking."

Sexual sphere.—Here are often to be noted delusional or hallucinatory disturbances. The fact that the voices accuse the patient of sexual irregularities has been mentioned. Perhaps the most common content of auditory hallucinations in precox is an accusation of gross sexual irregularities. As examples seen in cases from the Army may be cited a catatonic who heard voices. "I used to hear a whole lot of voices, hundreds of them;" some said vulgar and degrading things to him, cursing and swearing; others took up for him; he now hears only "one or two voices," and the vulgar ones are gradually dying out. Very often the patients give an account as above of the content of the voices when in reality they have heard themselves accused of the vilest sexual crimes and only by insistent and persuasive questioning will they reveal the exact content of their hallucinations. Sometimes they flatly refuse or try to evade answering. Other instances of delusions and hallucinations touching upon the sexual sphere will be given in the detailed histories.

Train of thought.—This tends to suffer grievously sooner or later in all cases. At first it is usually the loss of the mental activity (nimbleness) and along with this a certain voidness of ideas. He feels "less life in him"; "cares no more to read or think."

But the patient loses especially, as Bleuler has emphasized, the ability to have his thoughts pursue a logical course. On the one side they fail to see the most natural and commonplace conclusions from an idea; seemingly they are unable to bring into their consciousness the most apparent and easy deliberations. On the other hand, they form the most unnatural combinations between strange kinds of ideas. (See chapter on "Nature of the disease.") Almost always at some time during the course of a case stereotypies are to be noted—the holding fast to a single idea; the patient may repeat over and over for long periods the same expression which may be of most any nature, usually apparently senseless.

"Evasion" is a peculiar disturbance of the train of thought (called by Bleuler "intellectual negativism") brought about by the fact that the correct answer to a question is repressed and another nearly related is expressed.

This condition is probably nearly related to negativism. On the basis of evasion beliefs often develop that they are under some influence and not free to use their thoughts.

It appears most clearly in the answer to questions; yet the patients may complain that at times their thoughts are "diverted," "turned," etc.

(Patients very often give evasive answers, even say "I don't know," or "I have forgotten," "I can not tell" when asked to divulge the contents of the auditory or other hallucinations. They have a great disinclination as a rule to discuss them and will, not infrequently, converse freely until these are touched upon.)

Consciousness.—This is in many cases, if we exclude the demented end states, perfectly clear throughout. Only in excited conditions and stuporous states it may be at times clouded though this is usually less than it seems.

The ability to perceive and retain things is often quite well retained. This ability is often interfered with by inattention (as in repeating stories or numbers).

Confabulations may be seen at times based on falsifications of memory.

Memory.—Is relatively little impaired. They have as a rule retained and can give, if they will, correct answers to all of the usual questions in regard to their past. Often memory is very exact; in certain cases indeed it has seemed to me almost photographic; these usually paranoid in form. Very often, too, in examining patients it will be found that great amounts of correct information can be gotten from them by direct questions when they are utterly unable to give of their own accord a coherent and connected account of their past; showing that very often the facts remain in the mind of the sufferer but are inaccessible to us because of his inability or unwillingness to give voluntary expression to them.

Delusions.—These are the rule, though in some cases they are not pronounced in form by any means. The examples below given and a perusal of the detailed cases gives a better idea of their form and content than any description which we can give. It may be said, however, that they are never systematized and are usually variably changeable and of an improbable, bizarre, and often impossible nature. A delusion being "a false belief" it is readily seen that certain things which are present in precox may be classified as both delusional and hallucinatory from one standpoint. For instance, a patient hears voices which call him bad names and believes them real, whereas they are in reality false sensory perceptions. I have endeavored to classify as delusions false beliefs held by patients, not directly demonstrable to be false perceptions of any of the senses. A common form of delusion has been mentioned under the heading of "influencing of thoughts." The belief that others read their thoughts, take their thoughts from them, direct them in certain channels, etc., is obviously untrue.

A catatonic who was rather hysterical in make-up believed that some mysterious force came into his room and choked him. Things were put into his room and spirits came in without opening the door. One spirit took the water cup away without opening the door when it went out. He is learning a great deal about these spirits, but says he can not tell what he learned, except that to get water from these spirits he must ask at exactly midnight if he wants to get the water in time for breakfast. He has become magnetized and is as full of electricity as "anything you ever saw." By "setting my head on a thing I can draw it right to me." He has also been "hoodooed" into unconsciousness. A hebephrenic some time after admission said he did not know how long he had been here, but "I want to go on the outside and get enough air, that's what I want; my head was mashed in the guardhouse in Illinois and they just pulled everything out of my head." While at his post he believed that brass knobs in the barrack basement had an injurious effect upon him. Black germs rolled around on the basement floor, and horse's blood was injected into his right arm (typhoid prophylactic).

Another hebephrenic believed that he had been poisoned in the post hospital, saying: "I saw several bottles labeled poison." His heart, lungs, and intestines did not functionate properly. When he was a small boy he rubbed a salve or ointment on a dog's body and he now has dog's blood in his veins; he is like a dog and will soon turn into a dog. "They" are electrocuting him. He thinks the running of a watch which he has is controlled by a brother in Georgia. He dates the onset of trouble from the day he acquired gonorrhea, stating further that prior to this he had been "nervous" and had indulged in intercourse with the hope of cure.

For other forms of delusions see case histories, especially those of paranoid precox.

Disturbance in the emotional sphere.—Great and far-reaching injury to the emotional life is regularly noted. Most important is their emotional apathy toward events of the world in general; that is, toward all events not concerned with their "complexes." The finer feelings always diminish in intensity and lose their influence on the patients' conduct. They lose interest in their appearance and seem many times to lose to a large extent their sense of shame (indifference to what those about them think of their actions?). They often lose apparent interest in everything usually held most dear—friends, relatives, country, their daily duties, in fact everything in general. Some may be very busily occupied in answering "voices" or in carrying out some delusional idea to neglect of other things. Ethical and moral restraints seem to be partially or totally removed, as the case may be, so that criminal acts are not infrequent, not rarely committed in accordance with delusional beliefs or in obedience to

"voices," compelling influences, or on impulse. They often seem to be totally insensible to bodily discomforts, sitting for hours in constrained and awkward positions, maybe with burning sun on face with open eyes, ignore pin pricks or burns, cuts, bruises, etc.; pull out their hair, etc.

There may be at certain times an absolute ignoring of everything and everybody so far as can be determined by an observer. On this basis of at least outward indifference emotional outbursts, especially of anger, may arise, varying in frequency in different individuals. During these the patient may be violent, destructive, pugnacious, and dangerous. These outbursts are characterized by the suddenness of their onset and ending and may occur in any stage of the disease, even in the final end state of total indifference to everything.

In explaining these outbursts psychologically Bleuler holds them to be due to the irritation of some especially sensitive "complex" (constellation of ideas around a central idea). Kraepelin believes that, rather than the above, these impulsive outbreaks are due to the loss, by reason of the disease process, of some essential emotional component of the mind, this loss resulting in an inability of the victim to control himself in the presence of (to him) emotional excitants; hence the sudden and explosive violence.

In speaking of the emotional disturbances in the life of the patients, Stransky uses the term "ataxia of emotion," a lack of coordination between the different mental events, between the different emotional stimuli reaching the consciousness of the patient. Inferentially, the different ideas are not incorrectly perceived but are incorrectly associated and evaluated, according to Stransky, while Kraepelin believes the whole emotional disturbance to be due, rather than to this, to an actual loss (due to the disease process) of some of the "higher mental powers," which loss brings about the failure of the patient to react normally to emotional stimuli, with a resultant series of symptoms as detailed above (p. 704).

Now and then cases are seen in which the apparent emotional status is directly opposite to the usual one of indifference. In such there is usually a great inappropriateness between cause and effect. Instead of an emotional indifference we may have an excessive reaction to a seemingly comparatively slight stimulus.

Due to the fact that the patients are partially or totally indifferent to their surroundings and events transpiring therein, their mood is unaffected by them and may retain an unvarying sameness over long periods (stolidity of conduct).

Hatred and abuse of relatives or others previously dear may be noted without cause or the causes assigned may be plainly delusional. Senseless, groundless jealousy is not rare.

Bleuler (4), writing of the emotional state in precox, says that in outspoken cases the "emotional dementia" is in the forefront of the picture. Since the earliest years of psychiatry it has been known that an "acute recoverable" psychosis had become "chronic" when the emotional reactions began to fail. Many schizophrenics in the demented state show for years and decades absolutely no feelings. With nonseeing faces they sit in careless or crouched positions about the asylum, allow themselves to be dressed and undressed as automatons, are fed and washed with no show of feeling whatsoever, they react to nothing, not even to mistreatment. They do not even react when mistreated by other patients.

In less severe forms the indifference is the prominent part, indeed "against all relatives and friends, work and play, duty and right, happiness and unhappiness."

The defect is most outspoken toward the higher interests, whether it is fully apparent or whether it needs a complicated conceivability to find it. A mother can be in the beginning of her illness wholly indifferent to the weal or woe of her children, and yet not only use entirely such words in regard to them as would a normal mother but also actually know what is good or bad for a child, and on occasions, i. e., if they wish to obtain release from hospital, discuss same quite correctly. Whether they or their families "go to the ground" is alike indifferent to the patients; the instinct of self-preservation is often reduced to nothing, they do not plan whether they shall eat or hunger, or "lie on down or stone," and so in all other matters. In the later course of the disease they often become indifferent also to their delusions and hallucinations.

In milder cases the indifference may be absent or masked. In the beginning of the disease there is often a certain supersensitiveness which causes them to isolate themselves so as to avoid all mental contact with externals, even when they yet have interest (p. 33).

The relation to reality—Autism. (Bleuler (4).)

The severest schizophrenics (patients with dementia precox) live in a world to themselves, with their wishes which they consider fulfilled, or with the sufferings of their persecution they retire within themselves and shrink from contact with the outer world as much as possible. This separation from reality and the relative and absolute predominance of the inner life we call "autism." In less severe cases reality, emotionally, and logically has suffered a greater or less loss. They interest themselves yet in the world, but neither evidence nor logic has influence on the wishes or fancies of the patient. Everything which irritates their "complexes" simply does not exist for them.

Autism is not always apparent at the first look. They may adapt themselves to a great extent to their daily mode of life, even show

interest in some things, but their complexes they have to themselves and do not say a word about them and do not wish that they have any disturbance from the outside, hence their marked evasion when asked about them.

Action and conduct, Kraepelin (6).—With this deep disturbance of the emotional life are seen widely varying symptoms in the behavior and actions which to a large extent give to the clinical pictures their particular form. They are dependent on a number of different basic disturbances.

First we have to do with a general lowering of impulses to do things useful or customary, a general lowering of initiative. The patient has lost all independent inclination to act and do. He loses his inclination and ability for consecutive and coordinated doing as well as thinking. This leads to practical inefficiency in whatever he undertakes, and shortly they usually cease to try to work or otherwise profitably employ themselves, "having no inclination or desire to do so," or if they do make attempts their efforts are fruitless, work is poor, and they are very often discharged from a position, only to get another and repeat the same procedure.

This loss of the ability to usefully or consecutively apply himself, because he has no desire to do so, sees no compelling reason why he should, indicates to Kraepelin that the activity of the wishes (desires, will) is the compelling basis of our mental life. In near relation to this fact, the loss of the power of the will over the actions, stands the fact of that peculiar state of *influencibility* of the will, which is most emphasized in the symptom known as "command automatism." One desire or set of desires failing to sufficiently rule the mind to produce effective action, its opposite pushes prominently forward, producing in the mind a conflicting state of affairs which brings about strange results. Patients become hesitating, flexible, indecisive; allow themselves to drift, as it were, until they accidentally arrive at a conclusion to act; they are turned around and about by contrary ideas, until in the course of a day their actions may show the greatest diversity. Not a few thus afflicted glide by easy stages into a hobo's life, here to-day, to-morrow gone without aim or place.

In addition to the above, frank, outspoken forms of command automatism are not infrequent. It may be seen in all stages of the disease, in the earliest period or in the late demented state, in Kraepelin's experience not infrequently as a sole residual sympton in an otherwise complete recovery. It is especially well manifested in the state called "waxy flexibility," in which the body of the patient remains in whatever position it may be placed, however awkward, constrained, or uncomfortable it may be.

This automatism also manifests itself at times in the passive obeying of commands of any nature, however senseless or unpleasant, usually all the time a blank, impassive expression on the face. Usually if the order be one such as "Put out your tongue," he leaves the tongue out until he is told to take it in again. They have the compulsion from within to obey the order whatever it may be and lack power to originate an impulse to cease doing the thing or to resist it.

Echopraxia and echolalia, the will-less repetition, respectively, of actions seen or words heard, are forms of command automatism, and are not infrequently seen in precox. A passive movement by the physician of any part of the patient's body will often be repeated, a form of echopraxia. They are unable, that is the will is not free, is in some way hindered from functioning as in the normal, so they feel that they must do these things. This inner "unfreeness" of the will produces a blocking and nonworking of normal restraints, and on this basis the author explains various senseless actions such as sudden window breaking, breaking of dishes at table, destroying various articles, etc. The patients say, "I feel that I must," and similar statements in explanation.

On the basis of this will disturbance are found stereotypies; that is, the same idea holds its place in the summit of consciousness for a long time without break. Stereotypy manifests itself in the continuous repetition of the same actions or words for indefinite periods, sometimes hours or days. Presumably the state of mind of the patient is the same as if he were receiving commands to do the thing, whatever it may be, one right after the other. An inner compulsion forces him to keep at it. At the behest of this compulsion he is practically an automaton. Stransky quite pertinently speaks of this condition as auto-echolalia or auto-echopraxia, as the case may be.

In obedience to a similar mechanism of mind the patient may remain during all his waking hours in a certain position, a certain place, lying in bed at a certain angle, etc., resisting if one attempts to change him; if forcibly removed, returning as soon as he has opportunity.

Stereotypies may be very numerous and varied in catatonic excited states. In certain other cases for long periods almost every movement made is a stereotypy, and they may assume a rhythmic form.

Mannerisms are peculiar alterations of movement which are very frequent, especially somewhat late in the disease. They may be noted in speaking, reading, writing, standing and walking, eating, drinking, etc. In the field of speech negativism is manifested by mutism; in other cases by evasive answers. Sometimes they answer every question by a counter question, or by "What" or "I don't know," or they may simply repeat the question. Often one gets wholly irrelevant answers to questions.

Negativism is even more clearly indicated when to all questions he replies, "I don't know," "I do not need to say that," "you know already." In our cases a not infrequent form of reply is, "That is all in the papers" or "I told that at the other hospital."

Sometimes patients are mute so long as they are being questioned, beginning to talk as soon as left to themselves. In my cases it was interesting to note that frequently patients would talk very freely to me, a military surgeon, and not at all to the civilian staff, while in others the opposite was true. Often they would talk freely to nurses or attendants, scarcely at all to the physicians.

They may say a few words, then suddenly cease and be mute. Speech is very often listless, hard to understand, mumbled, the lips and teeth scarcely or not at all moved; in fact, he is talking with the least possible expenditure of energy. He is not interested in talking, sees no use in it; it is painful to him, so why, he reasons, should he trouble himself to say more than he must?

There may be periods of complete stupor, lasting for months and years, the patient not speaking at all, or the condition may be punctuated by outbreaks of abuse, violence, or excitement, lapsing again into stupor.

In one case recently seen by me the soldier wrote briefly his wants, but did not speak. Kraepelin says that as a rule when negativism inhibits spoken speech it inhibits written speech also.

Parabulia (perversion of the will):

Those peculiar psychological states which at first bring about only distortion of behavior (mannerisms of action or speech) can gradually become "opposite inclinations" (each impulse being at once overpowered by its opposite), which lead to complete dethronement of the will (power of person to control his actions and thoughts) in the life of the patient. By far the most important form of this is the suppression of will impulses by contrary impulses, i. e., negativism; negativistic will blocking plays a great part in dementia precox. It leads at one time to the instinctive blocking of all reactions to external influences, to strong opposition to all approach of any kind, finally to a state in which the patient does just the opposite of that which he should or is desired to do.

It seems to Kraepelin doubtful whether all of the manifestations grouped under negativism are, as Bleuler has recently postulated, due to a uniform cause. Negativistic conduct may, he thinks, be due to other than a single cause. Delusions or ill humor, especially anxiety or excitement, may so affect the patient that he will seclude himself; he may refuse to eat because he believes the food to be poisoned; refuse to lie in a certain bed on account of a belief that he may contract lues by so doing; may dislike the physician, therefore refuse to greet him, etc. This conduct is not peculiar to dementia precox.

Experience indicates, however, that there is a form of refusal to have to do with external influences, which is instinctive, i. e., not based on delusional beliefs or on emotional factors. There are cases of "command negativism" in which a patient told to keep quiet begins at once to sing; if told to walk forward, goes backward, etc. Such conduct is difficult to explain as due to emotional influences.

This leads up to the fact that in many cases frankly negativistic, neither delusions nor emotional affects (feelings) are demonstrable to account for their behavior. The expressions of the patients are of value in accounting for their actions. They often say, "I *must* often do the opposite of what I am asked." "I can not do what people wish." It is an unexplainable hindering of the will to do, the mood and behavior of the patient simply express what he feels.

This disturbance of will is seen more clearly even, in what Bleuler has called "inner negativism." As noted above, patients are not only negativistic against commands, influences, and impressions from external sources, but also against the wishes arising in themselves.

The clinical forms in which negativism may be manifest are rather varied. The quite general experience is that patients with dementia precox are more or less unsociable, seek seclusion, and desire to shut out from themselves the external world (often they are of this type even prior to development of any signs of the disease).

Bleuler has designated this important symptom of the disease as "autism." This desire for cessation of mental contact with the world is often evident in the whole attitude of patients as soon as one attempts to examine them. They decline to respond to your "Good morning," giving as a reason "having done so before," cover their faces or shut their eyes when approached, and similar behavior.

Often they are directly contradictory, will do nothing they are desired, always do something opposite, different, or nothing.

Frequently the history will show that for a long time prior to the onset of frank symptoms the patients have secluded themselves from all save the most absolutely indispensable contact with the world.

If the case is severe the patient is said to be in a negativistic stupor.

Kraepelin believes that perhaps Bleuler is mistaken in looking upon "autism" as the cause of the negativistic behavior, and as being due to the irritation by contact with externals, of painful ideas, or "complexes."

He is inclined to look upon "autism" as a form of, rather than the cause of negativism, and to explain both on the basis of "unfreeness" (from effect of the disease) of the will to do and think as the patient should or would.

We have already said that the patient in this disease loses authority over his will (wishes?). In various ways they are continually describing their "inner unfreeness." Their "will is weak," they

"have no will," "have no self-dependence," "can not rule their desires," etc. He (Kraepelin) gives numerous examples to show that they have lost in their thinking, feeling, and acting, that control by the germ of personality which is operative in the normal.

Practical ability.—Coincident with the mental loss occurs a marked diminution in the power of the patient to do practical work. The will disturbance is here again operative. They "stick" at every difficulty and their ability to consecutively apply themselves is destroyed.

After the subsidence of the stormy acute symptoms it is sometimes possible for the patient to take up some simple employment, especially of a routine character and with oversight.

In the speech and expressions of the patient the general will disturbance takes a peculiar form. In response to the cessation of the desire to have to do with the world the need for communication (with the outside world) ceases. They become taciturn, reserved, withdrawn into themselves, stammering or stumbling in speech, may be mute or not answer except to certain classes of questions; often give all answers in a tired, indifferent tone. They may have no communication with those about them, ask no questions, make no complaints. It is quite the rule for them to cease, or nearly cease, to reply to the letters of relatives or friends, often for months or even years before coming into hospital. They may write no letters, or only those of a wholly silly and unmeaning character (except possibly to themselves). The severity of the above naturally varies in the various degrees of severity of the disease.

Their countenances are usually dull, blank, and expressionless; their production (of speech) is slow, often very slow and monotonous. On this basis arises echolalia, referred to above. Sometimes they will repeat what they hear, even to inflection of voice.

In excited states there may be, instead of the above, an enormous flow of speech, which, however, is not coherent and connected, but extremely incoherent and disconnected, apparently utterly without sense or meaning and concerned with no especial thing or idea. The incoherence and senselessness is much greater than in manic depressive excitement. They may be abusive, joking, singing, shouting, screaming; one patient blew melodies all day long on a water bottle; they talk to themselves, or yell for hours at a time answers to hallucinatory voices—often most vulgar and abusive. This is very liable to occur during the night, and may be kept up for days (catatonic excitement).

The looseness of thought can be very clearly noted in the speech. Different ideas follow one another with the greatest want of connection, even though the patient be quiet. This looseness of thought connections can be very well noted in letters or other written produc-

tions of the patient. These are very valuable evidence in many cases.

Stereotypies of speech (see above) are common enough—they consist in the continuous use of the same expressions. He may give to all questions practically the same answer or repeat the same thing many times.

A more pronounced form of stereotypies of speech in which the patient may repeat for hours the same words or sentences over and over is known as verbigeration.

In the written productions the stereotypies or even verbigeration may be clearly seen. They write as they speak, using the same or similar expressions over and over.

We distinguish in our work three forms of dementia precox—hebephrenic, catatonic, and paranoid. Their characteristics, as seen in cases from the Army, may be noted in the histories detailed below.

The following were diagnosed on the history here given as "hebephrenic cases":

Case W. G. M. Patient 25 years of age on admission to Government Hospital for the Insane, June 11, 1912.

Father living, alcoholic; mother died of pulmonary tuberculosis, age 40; heredity otherwise negative, so far as known. Patient born in Indiana in 1887, eldest of seven children, whose names and ages he is no longer able to give in correct order. Birth and development normal, so far as can be learned. Attended school more or less from 7 to 18. Claims to have gotten along well; never truant. After two or three years on his father's farm he went to Illinois, where he worked as farm hand, alleging as a reason for leaving home that he was dissatisfied and they did not treat him right. Patient says he has masturbated since childhood. Chancroid recently. Patient stated he had been drunk about a hundred times (many precox cases much exaggerate their alcoholic indulgence and often draw attention to them), yet had never been court-martialed or treated for same. Denied lues. Wassermann test and urine examination negative. He enlisted in the Army in January, 1910, and was assigned to a Coast Artillery Corps company. His present illness began at the Presidio of San Francisco, about April, 1912. He assigns as a cause "a spell of sickness." He says he had "quivering spells." Once after drinking some whisky he felt "crazy" and was saluting everybody he met. Was sent to hospital for observation. While there he heard voices say, "It will be all right sometime," and that he would some day be President. He was depressed and believed he was to die in 24 hours. He remained in the Presidio hospital about three months, and was at times very impulsive and destructive. Had vague ideas of a delusional nature that he was or was to be some one other than himself. Attention defective. Paid little attention to happenings

in his surroundings. Had peculiar feelings in his head. Christ talked to him, he said, and things seemed strange to him. There was loss of mental power. At times would assault attendants in an effort to escape from hospital.

Examination at Government Hospital for the Insane, June 20, 1912, by Capt. L. L. Smith, M. C., showed a well-developed and nourished white male, 71 inches tall; weight, 183 pounds; slight craniofacial assymmetry. Somewhat round-shouldered. Physical and neurological otherwise negative.

Mental examination showed that he could give his name, age, birthplace, etc., the correct date, but not the day of the week. Thought he was at the White House, but had not seen the President. Knew when and whence he came and who brought him. Differentiated nurses, physicians, and attendants. In other words, correctly oriented except for place.

Insight: A few moments later, when asked what kind of a place he was in, said "a place for crazy people," but did not think he was or had ever been insane or "crazy." Did not know why he was sent to this hopsital; thought the surgeon who brought them would shortly return and take them away. Thinks his mind is all right. Says that when he entered the hospital at the Presidio he was scared and thought he would die. Does not think he belongs in the "bug-house."

Emotional status: Said that he did not feel sad or depressed and had never felt so; said he never became excited. (His previous record showed him to have been depressed and impulsive.)

More or less indifferent.

Hallucinations: In answer to questions he stated that no one ever "doped him," but that in the "bug house" at Presidio gases and odors choked him. He thinks it was ordinary gas, but can't say who put it in his room. At first denied hearing "voices," but later admitted that Christ talked to him and told him "to go somewhere" (said with a silly laugh); no other voices admitted.

Visual and tactile hallucinations denied.

Delusions: Said he didn't know why he thought he was President; he says he really didn't believe it, just told somebody that. Tried to escape from Presidio because he was tired of staying there. Seemed to be no delusion at the bottom of these attempts. Speech was not affected.

A short story was repeated to him and he was asked to give it in his own words. Said he could not; asked why, said, "I didn't listen." He gave the date of the Civil War as 1887; Lee and Grant as generals in it; named Asia and Africa for European countries. Could not give an address correctly five minutes after it was given to him. He gave moderately well the differences between horse and

ox, and ice and water, but could not between lie and mistake and dwarf and child. Could not do correctly simple arithmetic problems in addition and subtraction; could not give the days of the week and months of year backward correctly; could only recall two holidays, Christmas and New Year's day. From June 11 to July 17, 1912, the patient's conduct was good; he was quiet and orderly. Associated with others to some extent, but had little to say. Did not think himself insane or crazy; says he no longer hears any voices. Did not appreciate that he no longer belonged to the Army, and frequently asked the writer to return him to duty. When talking he often laughed and smiled with no apparent reason. Had difficulty in comprehending questions asked him. Believed that he was perfectly well. Would help a little with ward work—cleaning—but idle and listlessly walking about most of the time. In August he was going to supper one evening when he very suddenly picked up a knife just laid down by an attendant and made a motion as if to cut his throat. Attendant grabbed his arm and he ran out of the room very much scared. When asked why he did these things he said some one (probably hallucinatory voices) told him to cut his throat. Also said he did not care to live any longer. The following day he denied that he wanted to harm himself.

Until June 1, 1913, there was no return of the suicidal ideas and the patient's condition remained unchanged. Between January 1 and March 15 he seemed only approximately oriented, had no insight, believed he was well, was seclusive, conduct was apparently influenced by hallucinations and delusions, though he denied the existence of same.

During April, 1913, he engaged in a number of mix-ups with other patients, apparently unprovoked attacks by him. The only reason he would give was that he just couldn't help it, he had to hit somebody. Could give the name of the month and year but not the day of week or date. General physical condition good, seclusive, does not associate with others to any extent. Never asked for parole privileges or any favors, and seems indifferent, satisfied to remain where he is.

During May, 1913, his conduct was good; he remained seclusive, denied hallucinations, was entirely disoriented for time, had no insight, thinking himself entirely well. Showed little or no interest in his surroundings.

Rapidly deteriorating mentally. It has been less than 18 months since he was able to do full duty as a soldier.

Case H. A. S. Age 22 years, admitted to Government Hospital for the Insane January 27, 1912.

Heredity: Maternal grandmother dead of dropsy. Father dead at 44. Mother living at 44. Father said to have been alcoholic.

Personal history: Patient gives his birthplace, but not the date of birth or birthday. Says he is 20 years old; can not give a connected account of his life. All information has to be gotten by direct questions. School "five or six years," reached fifth grade; says he got along well. He worked off and on for five years in a hosiery mill, getting $10 to $12 per week. No previous attacks known.

Enlisted in December, 1911, at Fort Slocum, N. Y. Two months later joined a C. A. C. company, where his present trouble began. When questioned as to his condition in the company, the patient was reserved. Said he saw no necessity for the asking of all those questions and at times became somewhat bellicose and declined to answer. A little persuasion usually obtained an answer. The beginning of his trouble is thus reported. For several months prior to admission to sick report at his post members of his company noted that he was acting queerly and talking at random. He had a silly grin on his face at times, was indifferent to events and persons in his surroundings, lay in bed while in hospital. Saw visions of persons at times, and was disturbed by mind readers and witches plotting against him. He believed himself possessed of unusual powers, that he could make persons and objects disappear at will, and he had great confidence in his ability to overcome difficulties.

Alcoholic and venereal history denied.

At the Government Hospital for the Insane on the day following admission examination by the writer showed a well-nourished young man about 66 inches tall, weight about 140 pounds. Ears under size, front teeth small and irregular; round shouldered; tongue under size. Cremasteric reflex absent; skin seemed to be hypersensitive in spots. Plantar and patellar reflexes quite exaggerated. Physical and neurological otherwise negative. Urine and Wassermann tests negative. Mental examination Government Hospital for the Insane. Orientation: Knows where he is, the day of the week, month, and year, but not the date. Recognized examiner, knows the nurse, patients, and attendants when he sees them, but has learned no names. Knew he was in a hospital for the insane and gave surly answers to questions; easily became irritated.

Are you sick? "I am weak. I don't feel very good; my sexual power is gone." How is your mind? "All right." How is your head? "I am not woke up." Are you asleep? "No; I am not asleep. Advantages is what put me where I am." What do you mean by advantages? "That is, the other people who took advantage by taking my sexual power away, which is caused by being woke up as they were and they simply took it away by looking at you when you are in that condition. Other people were using my sexual power at Fort Adams." Who? "The man." What men? "The men in the company; everyone; all of them." How did they do this? The

patient seemed utterly astounded, looked at the examiner with apparent pity, and said: "That's a funny question; a man ought to know that if he knew anything." Well, I don't know it; you tell me now. "They take control of you and made it harder for you. When a person like this wakes up they can take what is theirs." The following will give some idea of the content of his mind: "I was never woke up like other people from a kid. My father had been using part of mine (sexual power); it was his the same as mine. Some people is better than others; when the father dies they take his." It seems that the patient thought he ought to "wake up" sexually after his father's death. This death was over a year ago, and when he did not "wake up" he reasoned that others around him were now using what he had before attributed to his parent, "taking control of him," as he says.

Are you crazy? "If I am crazy, everybody is crazy; they would be bound to be crazy." He refuses to explain this remark. He has "never been crazy; is here because sent here; did not want to come and does not want to stay."

Emotional status: He says he is not happy by any means, but is not worried; the only thing on his mind is that he wants to know why all "these people don't treat me right."

Sleep: Says he does not sleep very well. Why? "Because some people in Adams took his mind and kept it. They were reading it; they knew just what he was thinking all the time." He dreams, but will not discuss them. Judging from his manner, the dreams are very important to him, but he retires within himself and asserts with great emphasis that he is unable to recall any of the dreams. Congenital speech defect.

Hallucinations: Asked about auditory hallucinations, he smiled; seemed much amused at such an idea. Denied them at all times. He at first admitted visual hallucinations but refused to describe them; a minute later he denied his previous admission, adding, "when you ask anything like that I have to suffer." This suffering does not occur right now, this minute, but afterwards, when he thinks about it. He thinks they put batteries on him in Adams, not actually on his body but mentally. Patient showed a great many "mannerisms." Denies other hallucinations.

Delusions: Most of these have been described above. He says now that lots of people "have it in for him." How did your first sergeant treat you? "Not very good." "I asked him a funny question, I wouldn't say what it was now; it was told only to that one man." Tell me what the question was? "You don't want me to tell you what that question was, if you were to think about that you would die in an hour." When pressed to tell it he declined, saying it

might hurt him. Could or would not make sentences containing three given words as pen, ink, paper.

On being asked to give the difference between ice and water, horse and ox, etc., he was quite scornful at the puerility of the tests. Gave very poor differentiations, as "horse is different animal, that's all." Calculations: $6\times6=36$; $21\div3=7$; $19\times16=341$; $15\times14=210$; $12\times13=156$; $21\times49=1029$. Did these mentally with little or no difficulty. Repeated 7 digits (6137894) forward correctly, 4 backward correctly. Other school knowledge well retained, but is not posted on current events; is not sure of the President's name. Says Christmas and Easter are the main holidays. Thanksgiving may be, but he does not regard the other usual holidays as such. It is very difficult to describe the patient's attitude during the examination. At times he appears absorbed, as if influenced by delusional ideas, slightly uneasy, biting his finger nails; at other times seemed perfectly clear, and cooperated well. Mostly, though, he was indifferent, and volunteered little information except on one subject—the loss of his sexual power. Was not inclined to violence, but seclusive and surly, and expressed pleasure at the conclusion of the interview.

He continued as above described until March 1, 1913. Was violent and pugnacious when an attempt was made to vaccinate him.

About March 1 he became almost mute and entirely inaccessible. Crouched all day in a corner, in a closed doorway, or by a radiator, knees against his chin, hands clasped about his ankles. Erotic at times. Gave no trouble, went willingly to the dining hall, and did not soil himself. Ignored other patients. Continued about the same during April; inaccessible, lay all day on settee or on floor, eyes closed, apparently sleeping. At times gave monosyllabic answers; usually did not answer at all. Slovenly in attire, but gave no trouble.

During May, 1913, he remained substantially the same, but more slovenly and careless of his appearance.

Case R. M. Heredity negative except tuberculosis, rheumatism, and heart disease in antecedents.

Personal history by patient to me June 4, 1913.

Born in Germany December 9, 1881. Healthy child, no injuries. Started to school at $5\frac{1}{2}$ years, but was soon taken out and didn't go again until 7. Then attended until he was $16\frac{1}{2}$ years of age, getting along all right, he having only the usual amount of trouble. Finished well enough to be excused from one year's Army service. On account of father's death and other illness he was excused from all military duty and went to work in the family business. Declined to be apprenticed either to a hardware or elevator business, though his father had desired it. Said in the latter place he was abused

and wouldn't stand for it. After his father's death he couldn't get along with his brothers, so as he had always wanted to go to college they sent him, remaining from 1900 to 1904. Studied mechanical arts and chemistry. Got along fine in college, but couldn't at home; "they made things impossible for me; my ways didn't suit them, and I wanted to have my own way." So he came to America, landing in May, 1904, with $35; couldn't or wouldn't tell why he couldn't get along at home; blamed his relatives; he was all right. Went to Philadelphia; couldn't get work; begged awhile, then held a job in an ice-cream factory for six weeks; left apparently because he couldn't get along with his employers. Had numerous jobs ending similarly, until October 16, 1908, when he enlisted in the Marine Corps, under his correct name, R. L., and served until August 6, 1911, when he was discharged by court-martial sentence with character "bad" for striking a noncommissioned officer and using obscene and abusive language toward a noncommissioned officer in discharge of his duty. Had twice before been tried for practically the same offense. Patient gives this account of the above; year of discharge 1910. I got into some trouble; Sergt. Sanford knocked me down without provocation. It was a made-up job. Of course, he says, to make it look right they had to try me (the patient) by court-martial and give me a bad-conduct discharge. After this he returned to Philadelphia and went to work again as a baker, and he says, "I never got along anywhere I worked. The men got into fights with me. I got along worse than I ever got along." Soon left Philadelphia and went to West Virginia, and finally enlisted under name of R. M., at Columbus Barracks, May 2, 1912. Remained there until October, when seemingly he became dissatisfied, and on his own request was assigned to the Coast Artillery Corps and sent to Fort Williams, Me. He got along all right for a few days. History from Form Williams shows that he acted queerly and was confused while on guard April 25, 1913. Said his mother (who is in Germany) passed between him and the prisoners he was guarding, that his brother is in the post, but he can not find him. This brother is in league with certain members of his company to harass him as to his religious views. Attempted suicide by cutting his trachea with a razor.

The following, in triplicate, was found in his locker: Charge "A," conspiracy of Jesuistic character; using the case of my enlistment to force me over from "Protestantism" to a Roman Catholic.

Reason 1. My United States mail has been broken up.

Reason 2. The code key to my cipher language between myself and Richard Lindenmaier has been stolen during the night. The code key has been contained with my golden opal ring in a leather pouch concealed in my mattress cover. The ring has been returned with

the code, just the same way, but placed on the opposite side of the mattress.

Reason 3. The greater part of the Forty-ninth Company secretly observed this conspiracy, and must be able to testify.

Reason 4. The agitation to get results of this conspiracy has been carried on so much stronger because it is well known that I am a strong supporter of Protestantism.

Reason 5. I report this case not only to get relief from this endless annoyance, but as the duty of a soldier true to the oath of his enlistment in the Army of the United States.

Signed by the patient April 21, 1913.

While turning over his orders to the sentry relieving him, April 25, 1913, he was excited, confused, made foolish expressions, told his relief that he must watch the ammunition in the peace magazine, and allow no one to carry it away; explained naturally, presumably, by the plot against him. He declines to discuss what he calls dreams. "I don't care to tell about it." "It has some connection with this religious fight that day in the company, but it was all natural, like life—no nonsense about it." He thinks attempts may have been made to injure or poison him. The last few nights in the barracks he was so excited he could not sleep, fearful that he would be injured by the men whom he distrusted. The first sergeant handed the corporal a piece of white paper; "that looked funny." A slight change in the routine of guard duty was significant in his eyes. It seems that the first sergeant was the ringleader, but the two lieutenants were mixed in it, too.

He is quite well educated, and tests show that his acquired knowledge has been well retained. He cooperated well during the examination, though at times he was plainly irritated, and controlled himself with difficulty; seemed under great emotional stress; certain ideas produced a preponderating flow of emotion. From his story it is apparent that since 1904 he has been unable to adjust himself to his environment, could not hold any job, could not make any real use of a quite good education. It appears that in each instance he attributes his failure to the machinations of those about him.

Since the examination above recorded he has withdrawn into himself, as it were; is seclusive, and avoids all mental contact with others; walks up and down the ward rapidly; becomes very surly when questioned, and moves away.

Physical and neurological tests negative, except for a few anatomical stigmata. Serological tests negative.

Case A. L. C. Family history: Both parents died of consumption at a rather early age.

A maternal uncle was excitable, and is supposed to have committed suicide. Brother of patient died insane at the age of 22. Heredity

otherwise negative so far as known. History indicates that it is mother's side which is defective. Personal history given by patient October 24, 1912, two days after admission.

Born in Norwich, England, March 18, 1882; school 6–16 years. Learning sufficient to enter London University. Childhood happy, not different from other children. Studied for a year after leaving school, then took two civil-service examinations, one easy, the other difficult; passed the former and was a clerk at a small salary for a year. Then passed for a position at 35 shillings per week, but soon fell ill, and after a short time with a private nurse was sent to Bethlehem Asylum; age, 19 years. Recalls many of his symptoms; they were in connection with the Bible and religion, a sense of being eternally damned. The depression was very great. While in the asylum he threw off his clothes, was unmanageable, was continually singing, shouting, banging doors, etc., all of which at the time he thought some deity or God wanted him to do. Says he was sent to Surrey one and one-fourth years later unimproved. Here he improved, and thinks it was due (of course, it was not) to the fact that the doctor made him obey orders. He, on discharge, after two and one-half years in the asylum, joined his brother in a small business, but left to come to Canada in 1906 (spring). For about a year he worked at odd jobs in various parts of Canada; finally in March, 1907, he found himself in Duluth, Minn., "broke." He enlisted at Fort Snelling, Minn., and went to the Thirtieth Infantry. Says he got along well with the men in the company, was happy, though there were a few times when he realized that he was in danger of breaking down mentally. Served in the Philippine Islands, and finished his enlistment there, being discharged at Angel Island in March, 1910; character, excellent. Had saved $200.

His movements between March, 1910, and July, 1911, he described as follows: "Batched" for one week with another ex-soldier, working in a sawmill, but left because he was asked to do two men's work and knew he could not stand it. During the next month he worked in "different sawmills." In the next five or six months he had "150 different jobs" in various parts of Victoria and Vancouver, British Columbia, the longest at any one place being two weeks. About March, 1911, he had a mental breakdown. The symptoms, as he recalls them, were general depression and the idea (delusion) that God was in hell. They started when he was working at clearing land, and he got the idea that God wanted him to let the fires keep burning, and start a forest fire, which would, of course, have been disastrous, and these ideas frightened him. He was also excited at times and had a longing to be very good. Now realizes that all these were "insane ideas." He was in an asylum at Victoria for one month, then discharged. Returned to Seattle with $25 he had received from

his brother. Went to Seattle, and in July, 1911, again enlisted at Fort Lawton. Wanted to go to his old company in Thirtieth Infantry, but was sent to Twenty-eighth Recruit Company, Angel Island. He liked the company, but not the duty—guarding convicts. He talked a great deal about religion and the Salvation Army, and the first sergeant told him to remain away from the orderly room. On this basis he for a while believed the first sergeant had it in for him.

Says he left this company to go on recruiting duty at Salt Lake City, but there made a bad impression on the captain by talking too much and butting in when the captain was speaking. Says he just couldn't help this; he got interested in the conversation. While at a substation—Pocatello, Idaho—he took a Japanese child, whom he found on the streets, into the office, and was amusing him by putting him through the recruit examination and letting him play with the rubber stamps. The sergeant came in, "balled" him out, and pretty soon he was sent to Fort Logan, Colo., and placed in hospital. While there he had hallucinations of hearing, the contents being of a religious nature; believed that the Deity was commanding him to do many extraordinary things; somewhat excited, voluble speech; many queer actions on the ward.

Mental examination G. H. I., October 24, 1912, by writer.

Orientation: Absolutely correct for time, place, and person. Emotionally he was "in between sad and happy"; little things tended to worry him. Never dreams and usually sleeps well.

Insight: Are you insane now? Slightly so. In what way? Religious business. I caught myself saying last night, "Oh, damn religion." Whenever I think of religion it somewhow seems unpleasant and I flip my fingers to rid myself of the thoughts. How often have you been insane? This is the third time.

Hallucinations: Denies auditory hallucinations, except in his first attack. They then said various things, and he now believes that it was his own thoughts which he heard.

Has had visual hallucinations on a number of occasions. Says he now realizes the unreal nature of these. Once at Angel Island on prison guard he saw in the air Jesus Christ crucified, and pointed it out to the sergeant of the guard. In his first attack he saw and walked with his "girl," saw his own sister in a chair, and one morning at breakfast everyone at the table seemed to have his face lathered as if for shaving; also saw at times numerous nude women in suggestive attitudes. At Logan, Colo., he had to close his eyes to prevent seeing bars. Two years ago became conscience stricken because he had indulged in intercourse, and has since abstained, which he believes may have contributed to his breakdown. Masturbated "several times."

Speech: Is excellent, but grimaces and makes unnatural movements with his lips. Repeats test phrases well. No delusions present now, but the history shows him to have entertained many in the recent and remote past. (See above.)

With given words he can form excellent sentences. Differentiates accurately between horse–ox, lie–mistakes, dwarf–child, etc.

Moderately difficult mental arithmetic done readily. Repeats numbers of 7 digits (6243189) after examiner readily. Repeats 4 digits backward. Retention of school knowledge and conception of current events good. Can give correctly the holidays and their significance, also the meanings of common proverbs.

Physical and neurological examination negative. Wassermann test and urine negative.

The patient made quite a normal impression at the time of this examination.

In November, 1912, was given parole of the grounds; conduct was exemplary.

In January his condition was as follows: Conduct excellent in every way. Stated that this was his third attack of mental disease, the first being in his early manhood, and that it seemed to him that following this he had not made much of a success of life. (See history above.)

Perusal of his life history indicates that whenever he has been left on his own resources he has been unable to keep the wolf from his door with any degree of success. He was in January, 1913, accurately oriented for time, place, and person; polite and agreeable in all ways; anxious to work; spent his time reading and conversing with those about him. Appreciates fully his present circumstances; is quite sure he is now his normal self, but is equally certain he has been insane three times, and has some fear that he may be so again. No delusional ideas or hallucinations of any sense at the present time. Asked advice of physician as to his future course.

This man was discharged January 18, 1913, to go to his brother. It seemed that he was in a normal mental state then, but on account of the previous disease he will be unable to meet and cope with the world unaided, and must sooner or later present a return of symptoms unless he has the oversight and supervision of some one. The condition suggests both manic depressive insanity and hebephrenic dementia precox. I am indebted to Dr. William A. White for the following remarks on it:

> The difficulty we have here is the sort of difficulty which we meet in a considerable number of cases, and it is usually in differentiating between manic depressive insanity and dementia precox.
>
> It strikes me there is another thing to be considered here, and that is a psychasthenic state. All of these things are liable to return periodically, and

now because we have no criteria in this case we are unable to differentiate which it is. The periodicity of the attacks looks like manic depressive, the hallucinatory state; the grotesqueness and bizarreness of the ideas looks like precox and the lack of deterioration looks like other things, but there seems to me to be several indications that the thing is precox. These indications are what we find in the archaic types of reaction, the primitive types of reaction. The first thing which comes to mind is his belief that he is inhabited by a god or deity. His present explanation would throw that out of court, but probably it has a great deal more significance if we take his words as he originally expressed them.

The idea of a single God has developed with civilization, while primitive man believed in many gods. If you read mythology all those primitive ideas of the early Greeks, etc., will be brought out. The whole thing impresses me that we are dealing with one of those archaic types of reaction which is sufficient to at least suggest a precox type of reaction. It might be manic depressive or a psychasthenic thing but unless there are indications of some kind by which to classify it definitely I should call it precox.

Case of T. H. W. Private, Fifth Infantry. Admitted to Government Hospital for the Insane, May 19, 1913; aged 28 years; single.

Heredity uncertain; as given by him is practically negative. Personal history given by patient May 26, 1913, to writer. Born July 11, 1885, in Washington, D. C. Birth and development normal so far as he knows. School "seventh to fourteenth year." Attained only "about the fourth grade." Has had "measles, typhoid, tapeworm, and syphilis." Blow on head in youth, apparently only scalp wound. Never arrested prior to 1900, when he enlisted in Marine Corps as apprentice to serve until 21. Discharged in 1906; character, "very good." Two trials only he says. Began to drink in 1903, when about 18 years old, while in Porto Rico. "There used to be a time when I could drink and wake up with a clear head, but here lately I wake up nervous and stay nervous until I get a few drinks."

From 1906 to 1908 he worked around Washington, and, as he expresses it, "was drinking right along." "Got drunk every once in a while." Twice arrested. Prefers beer, but after a few drinks begins on whisky. He guesses this breakdown was coming to him, but thinks it would have been delayed could he have gotten better whisky at Plattsburg Barracks, N. Y. In 1909 first enlisted in the Army; served three years in Twenty-ninth Infantry; had "too many summary courts," all due, he says, to overindulgence in alcoholics. Character, "good." Reenlisted November, 1912, and sent to Fifth Infantry, whence he came here on May 17, 1913.

Present illness: Given by patient May 26, 1913. Something more than one and one-half months ago, exact date he is not sure; he was in the guardhouse, and five or six days after being given his freedom he received his pay and began to drink, keeping it up for about seven days, on and off. Drunk one day at gallery practice, for which he

was sentenced to be confined for one month. About 2 p. m. on day he was confined he began to hear people talking, saying detectives were after him, calling him all manner of vile names. He thought that he was killing people, which accounted for these things being said and done about him. In the morning he would be quieter but later in the day would seem to lose his head entirely; yelled and screamed. The moment darkness came on he became worse, was scared, and the voices recommenced. This kept up for about five days in the guardhouse, when it suddenly ceased and he felt well again. During this excited period he also had visual hallucinations; saw in a window of the guardhouse a person with an "apparatus" "squirting acid on me and trying to chloroform me." Saw only this, and it not very often. Not sent to hospital; completed his sentence; when released, soon began to drink again and "those things came back on me again." Was sleeping "pretty well" until the return of symptoms, but "felt a little shaky."

According to his account the second attack differed little from the first except that he had no visual hallucinations and was in the hospital instead of the guardhouse; patient once went to his captain and asked what he had done that all the men should talk so about him. He says the voices kept up until some time during the journey from Plattsburg to Washington when they "died out."

So far this patient's history is quite typical of an alcoholic psychosis, acute alcoholic hallucinosis, which might well arise in such an individual, a chronic alcoholic.

Mental examination May 26, 1913.

Perfectly oriented in all spheres.

Emotional status: Content, but does not like to be locked up.

Insight: Says he is not sick but there may be some remains of syphilis in him and he may have some eczema. Thinks there is now nothing wrong with his mind and realizes the imaginary nature of his experiences at Plattsburg. He now admits no delusions or hallucinations. Actions do not indicate that they are present. He has been told that he had delirium tremens in 1903 or 1904, but it seems scarcely possible as he had only been using drink a year, and says he had no hallucinations at the time.

He repeats test phrases with slight slurring of some words. Formed good sentences with words given him. Some impairment of memory for recent events; for past events memory is good. He very easily becomes confused and has difficulty in keeping things accurately in his mind.

Simple problems in arithmetic done correctly, but he had considerable difficulty in naming the days of the week backward. Could not name the months backward.

Knowledge of common holidays rather meager. As examination proceeds he has more difficulty in keeping his attention on the matter in hand. Gave St. Lawrence as the largest river in United States. Can name only two of the Great Lakes. Gave a fair version only, of a short story read to him. Patient was quiet and agreeable and cooperated to the best of his ability during the examination.

Physical and neurological negative except that tongue was tremulous on protrusion, slight incoordination in voluntary movements. Knee jerks slightly plus bilaterally, left cremasteric reflex absent, pupils normal, except that the right pupil is slightly irregular in outline. These signs may be due to chronic alcoholism. Urine and Wassermann test negative.

The appearance of the patient at this time indicated improvement, but his inability to concentrate his mind and his becoming easily confused suggested a possibility of the case being one of dementia precox with the symptom picture dominated by alcohol. Subsequent events proved this to be correct. Instead of continuing to improve in hospital as practically 100 per cent of cases of acute alcoholic hallucinosis do, he was, in June, 1913, indifferent to the parole of the grounds given him, made little use of it, lay about the ward in a careless way. In early July he became much depressed, refused to go out of the ward, heard voices accusing him of vile practices and calling him vile names. Very untidy in personal appearance and devoid of interest in himself or others.

Subsequent progress gives absolute evidence that he has precox. Careful examination of cases which are seemingly alcoholic hallucinosis will often show that one is dealing with dementia precox. We admit several such cases from the service each year. The above is a fairly typical history.

Case B. First lieutenant, United States Army; admitted September, 1912; 31 years of age. Family history shows him to be seventh of 10 children. One sister has severe grade of rheumatism; two brothers were insane, one suffered from catatonic precox, and died here, the other was a suicide at 39 and without doubt insane. History otherwise negative.

Personal history: Birth and development said to have been normal. Good recoveries from diseases of childhood. Not unusual as a child in anyway so far as known; had a normal school career, though never quick to learn. Entered the Military Academy at the age of 20.

Class standing: First year, thirty-first in 130; second year, sixtieth; third year, seventieth or eightieth; graduated 98 in a class of 115. In March or April of his fourth year he had a "nervous breakdown," which was attributed to overwork. Symp-

toms given as insomnia for several weeks prior to admission to hospital; inability to concentrate mind on work, constipated, no headache, poor appetite, "was nervous." At times had difficulty in making out simple reports. Remained in hospital two weeks. Was in the Twentieth Infantry for two years following graduation; served in Philippine Islands, and got along well. In 1907 he was transferred to the Coast Artillery Corps; believes he made a rather poor showing on his examination. In the fall of 1908 had facial erysipelas and was delirious for about a week of his month's illness at Lettermann General Hospital. He thought at the time that he was insane and would be sent here, as his brother had been, so he attempted suicide by cutting his throat with a razor, following which attempt he was more or less unconscious for several days. Following his discharge from the hospital in 1908 he had certain ideas of a delusional nature, thought his friends disliked him or were indifferent toward him. On sick leave for one month. He thinks that since this severe illness "his brain has not been as good as it was before." He "didn't feel as sure of himself as before"; "didn't have any spirit"; "couldn't give his commands with the same energy"; noticed he was indifferent about his work. At Coast Artillery School in 1910 passed in seven of eight subjects; failed to graduate; "had difficulty in concentrating my mind on my work."

Recent illness, by patient: Mr. B., please tell me, as near as you can, how your present trouble began. He, with considerable difficulty in starting his sentences (blocking of thought flow), said "I was in for a leave. The surgeon had an idea that I was in the same state or was acting in the same way as Capt. X [recently admitted here from patient's station], and I was put on sick report over my protest. I think the surgeon and commanding officer had been watching me for some time as to my mental condition, perhaps ever since I had been there [one year]." He had, he says, been having a little trouble sleeping, but could have cared for himself. "The surgeon must have seen I was nervous." What occurred? "There was no sudden change in my mental condition." "I began to think I was smoking too much." Had an occasional ringing noise in ears. Describes correctly his trip from his post to Walter Reed Hospital, where he arrived September 13, 1912. Heard no unreal voices there, but imagined at times during the night that voices in the next room pertained to him, only to find next morning that they did not. Thought he heard a colonel say that "B. was a worthless character." Says he now knows this was not true. Says that he has been subject to periods of depression since he reached adult age. These are accompanied by insomnia and have become worse in the past four or five years.

Mental examination by writer October 3, 1912.

He is accurately oriented in all spheres, takes considerable interest in what is going on, is neat and tidy in personal appearance. He is anxious, he says, to leave the hospital on leave soon, and go back to duty as soon as he can, as he feels now no differently from the past few months, during which time he thinks he properly performed his duties. (History shows he did not.)

Insight: Is your mind all right? "No; I think there is some irritation that comes on when I am worrying; right now, for instance, I have that feeling in the back of my head." What feeling? "It is the feeling that I imagine every man has who is irritable and cross and easily irritated." "It is a kind of a hot, disagreeable feeling." Are you insane? "No." Have you ever been? "I have been temporarily out of my head twice, once at West Point, in 1905". He does not mention the other time. Why sent here if not insane? Says he was told that he had a tendency to insanity and needed careful treatment (probably correct). Was it right to send you here? "I hardly thought it necessary."

Emotional status: Are you sad? "Why, I feel all right to-day; about normal." Any worries? "No; nothing to amount to anything." No delusions can be made out.

Hallucinations: Have you ever heard any unreal voices? "No; I have not. Last night I woke up, had a slight ringing in my head, had difficulty in going to sleep again." This happens "infrequently." He once imagined that some one was in his room at Fort Morgan, but thinks it was probably a dream. No other hallucinations. It is questionable if the above are such.

Speech is slow, but articulation is good. He has great difficulty in recalling and associating different ideas in his mind.

A short story (shark story) was repeated to him and he gave a fair reproduction of it with some difficulty.

With words given him he formed excellent sentences. He accurately differentiated between horse and ox; dwarf and child; lie and mistake.

His replies to questions in mental arithmetic, though given slowly, were quite up to the average. The same is true as to questions in geography, history, current events, etc.

Physical and neurological examinations were practically negative. Urine negative. Wassermann negative. This officer was retired in May, 1913, on account of dementia precox, hebephrenic form. In line of duty. A few days later he was allowed to go to his home in Tennessee. He showed practically no change between September, 1912, and May, 1913. The greater part of that time he was away from the hospital on visits and had never the slightest trouble. When seen he showed always the same blocking of thought, was unable to com-

plete sentences oftentimes; had the greatest difficulty at times in deciding anything. He had a subjective feeling of inadequacy; several times asked to be discharged from hospital, then changed his mind, because he wished to be on the rolls in order to return without difficulty if he so desired. Had no insight; always believed himself better.

Case A. L. C. Admitted to Government Hospital for the Insane November 8, 1912; age 23; single.

Family history given by patient November, 1912, to writer.

During the whole examination he seldom spoke spontaneously, all information being gotten as answers to direct questions. Can in this way give as much information of his antecedents and family as the average person. Heredity good so far as shown. He is slow in giving answers to questions, appears to be quite depressed and preoccupied. Suggesting at first glance the depressed phase of manic depressive insanity.

Personal history by patient to writer: Born in December, 1888, in Maine. Talked late, development otherwise normal in childhood. Says he can not say how long or when he attended school, but believes he quit in the fifth reader, when 18 years old. Has had scarlet fever, measles, "canker" rash, mumps; denies venereal. In describing his occupational career he says he left home early, working at various places in the neighborhood, where he got along all right. Remained in his native neighborhood until he enlisted in 1908. Got along well during his first enlistment; reenlisted in same company. Went to Philippine Islands in 1910. Claims that in all his service he has never been put in arrest.

Present illness: Records show that he used alcohol in moderation, and in February, 1912, began to show a change in disposition, neglected his work, was quarrelsome, morose, and desired to be left alone.

Patient's statements as to onset: Is unable to give the date. Says he went to hospital at Corregidor complaining of headache and constipation; they thought he was out of his head and sent him to division hospital. Blames the hot climate solely for his troubles. Says in answer to repeated questions that he "did nothing at any time to cause anyone to think he was crazy or out of his head." Says he got along fine in every way in the Philippine Islands, except that he was downhearted and was in more or less danger from the heat and the climate. Was not homesick. Says he came home about June, 1912 (correct); had a fine trip; nothing bothered him, and he felt fine. Here, as at many other times, though apparently depressed, he laughed in a more or less foolish manner; would not tell at what he was laughing, seemingly at some idea of his own. Continues to insist that he was perfectly well at Presidio, though from his appearance and actions it is evident that he is not right.

Records state that at Presidio he showed auditory hallucinations, transitory delusions, dilapidation of thought, emotional indifference, yet he himself insists now that he was perfectly well there.

Mental examination Government Hospital for the Insane November 19, 1912, by writer.

Orientation: What place is this? Seems confused; says, "Washington, D. C." Can not give name of institution; says he has not heard it. The date? November 18 or 19. Year? Smiles and says that he forgets the year. Is it 1912? "Yes." Day of week? "Monday" (c). Apparently remembers little regarding the details of his coming here, but when direct questions are asked and an answer insisted upon, it is seen that he really does remember the important parts. Lack of interest prevented his noting many minor details.

Are you sick? "No, sir." Have you been? He yawns, says, "Very near it the past year." Did you want to come here? "Just as soon come here as not." Are you crazy? [Pause.] "No." Have you ever been? "No." What happened in the Philippine Islands to lead the surgeon to think you might be crazy? Promptly says, with a smile, "A little joke, the same as usual with the doctors." Can you think as well as ever? "Yes." How is your memory? "Not very good lately." When did it fail? He laughs and says, "It has never been bad." Laugh unnatural. Has your memory failed? "No." Is it all right? "Yes."

Hallucinations: Have you ever heard noises, rumblings, ringings, or anything like that? A little uneasy and hesitating in answer; denies hallucinations of all sorts in answer to direct questions. Says with decided emphasis that he does not want to go back to the Philippine Islands. He wants his discharge. Why? "I want to go out of the Army." Why did you reenlist last year? "When I was discharged I was looking for a job in the Quartermaster's Department, didn't get it and (with a smile and semiwink) it takes only a minute to reenlist. Says in answer to direct question that he then began to worry about reenlisting.

Does anyone read your thoughts? "Not particularly, only a paper followed me around." Where did this start? Who had it? How did you know of its existence? To all, "I don't know." He says it had all kinds of notes on it; some wanted to send him here and some didn't; these notes were made by officers of United States Army at Corregidor and Presidio—apparently he refers to his medical history.

No speech defect with usual test phrases.

Made fairly good sentences containing given words, as pipe, match, smoke.

Differentiation between horse and ox. Horse has a hoof and ox has a split hoof. Ice is hard; water is soft. Dwarf is deformed; child is all right. Ordinary mental arithmetic problems and historical and geographical questions answered quite on a par with his education.

Comprehension of a short story repeated to him fair and he reproduced it fairly well.

Physical and neurological: White male, 66 inches tall, weight 140 pounds, well nourished, no anatomical stigmata of note.

Superficial reflexes very active. He flushes when the skin is touched on any part of body; skin seems quite hyperæsthetic. Knee jerks moderately exaggerated. Pupils show no abnormality. He says that the light in his eyes (in testing pupils) affects his back. Up to this point the patient has not admitted or shown anything distinctly delusional or hallucinatory, but when the physician wishes to listen to his heart sounds he becomes distinctly antagonistic, backs away, and objects very strenuously. Says he does not wish his heart examined, it is all right, it is glass and steel. Says that when the doctor began to examine his heart he "got this glass and steel all over his body." It did not come from the doctor, but was in the air; he can't tell whether it "came from the inside, the outside, or where." Questioned more closely, he says this glass is "colored all over"; "feels mostly like something that is sharp"; any man can throw this stuff about;" "it is nothing but electricity." Now admits that he has felt this glass and steel since "last spring." Will talk no more. Many other questions were asked him, but he gave the same reply to all regardless of its purport. "Yes, sir; yes, sir; yes, sir; yes, sir." The antagonistic attitude was of quite sudden onset. He admitted that before he came into the room "something" told him not to tell me about the glass, steel, etc. He would not explain who or what "something" was.

Until December 9, 1912, there was little change in his condition, but on that date, just after being transferred to a different building, he suddenly assaulted an attendant and attempted to take his keys. Was overpowered only with some difficulty. The next morning he was somewhat nervous and embarrassed, reticent, but admitted that he had tried to get away. A few days later he, in response to questions, said he was "sorry" and promised better behavior. From then until January 22, 1913, he was quiet, seclusive, never spoke to anyone, ignored fellow patients, neither read nor engaged in any work or amusement. To questions he answered willingly but with retardation of thought and quite evident indifference.

On January 22, 1913, he asked to be discharged from hospital. When asked if he had suffered at any time with any mental trouble, he replied that there was and had been nothing wrong with his mind,

saying, "I am the grace of Jesus Christ as it is pictured." "This name was given to me by my grandmother on her deathbed; I am just the same as Jesus Christ." Would converse no more, but appeared to be under great emotional tension.

Until February 10 the patient was quiet, reticent, but gave no trouble. Once asked to see a minister, as he wished to be given his official name, Jesus Christ. During the next month he never spoke to his doctor, ignored those around him, was idle all day, never read, or evinced any interest in surroundings. When questioned, replies were polite but monosyllabic. During the next month he was unchanged, except that he was even less inclined to talk. Despite his condition he remained neat. Still asserted that he was Jesus Christ, but would say no more on the subject. Until June 30 there was little change in him beyond an increased irritability and more frequent fights with fellow patients. Still maintained that he was Jesus Christ. Physical health excellent.

Case H. Italian; age 26 years on admission to Government Hospital for the Insane November 18, 1912; private in an Infantry band.

Family history by patient to writer: Negative, except father died at 52 of some form of paralysis; duration six or seven years; also had rheumatism. Brothers and sisters, etc., normal, he says.

Personal history by patient to writer: Was born in Italy March 26, 1886. Says birth and development normal. Urinated in bed until 10 years of age. Says he began to masturbate at 13, which he kept up to excess for two years. "Then a doctor cured me." "I had read too many love stories; laid around reading love stories and masturbating, and this made me weak." School from 6 to 9 in a very poor school. Learned common-school branches.

When he left school he tried to learn shoemaking, but couldn't, being too busy at his music. Played cornet and trombone in a band at home from 14 to 18. Came to the United States first time at 18. Recounts details of that trip. Had a job for awhile in a traveling band, but the show "busted." He says, "I am unlucky about music. Whenever I go with a band the show busts up." In the next one and one-half years he had two or three jobs in and around New York. Then returned to Italy to serve as a soldier, but was excused on account of his father's death. Remained "home" two months, returning to United States in 1909. Can give dates and details of the voyage.

In New York he worked "as porter in a beer saloon"; "drank some beer—no whisky." Then went to a doctor to get what he calls "a weak member" cured. He gives here a long and somewhat disconnected story, interspersed with much vulgar and at times "picturesque" slang, describing his excessive relations with prostitutes,

which, with excessive masturbation when lewd women were not available, brought on this condition of "weakness." Says "that is awful business; it gets your man life." Says the day after seeing the doctor he "ran away" to Richmond, Ind., to escape the "noise and bustle" of New York, which hurt his head. Denies hallucinations at this time, but had a great number of dreams, erotic in nature.

After working in Indiana for two weeks he enlisted at Jefferson Barracks as a musician October 13, 1911. Was sent to Philippine Islands, where, in February, 1912, he joined an Infantry band at Fort McKinley. "I liked this band fine; they were a fine bunch of fellows." After pay day for February, 1912, he spent a night with a Filipino woman. He here intersperses his story with a lengthy, vulgar, and very "slangy" account of his experiences with the various classes of prostitutes—Chinese, Japanese, Indian, etc.—in Manila, comparing the one with the other, their relative merits, etc. Says that after his experience with the Filipino woman he went home, felt weak, lay on the bed for three days, would not eat; just why he can not say.

For the period about this time he is very confused. He knows he was taken or went to hospital. "I can't remember much; my brains were out." Was sent to division hospital; then to Presidio. Says now that while at Fort William McKinley, when he tried to his duty, the band leader would "play some crazy music," which "had a great effect on him"; "make me laugh and cry"; "see animals and all sorts of things."

A statement of his condition at Lettermann General Hospital shows that his mental trouble dated from about March, 1912, when he became delusional and hyperactive. Was then—November, 1912—rapidly clearing up; excitement had abated; appeared confused at times and had some "buzzing" noises in his ears. When first admitted to that hospital in early summer of 1912 he was very excited; had to be secluded in a room for several weeks; yelled and talked incessantly; was destructive, hyperactive, and showed flight of ideas.

Mental examination November 19, 1912, Government Hospital for the Insane, by writer: Speaks English fairly well only. Is correctly oriented for time, place, and person; correctly recalls the circumstances and details of his recent journey from San Francisco.

Insight: Are you sick? "No." How is your mind? "Pretty good." Can you think as well as ever? "Yes." Memory? "Good." Are you crazy or insane? "No." Have you ever been? "I was crazy down in Manila when I was brought to the hospital." When did you get well? "Got well in the Presidio at Frisco." Can not give the date of his recovery. Are you out of your head now? "I guess so; I think so." Why were you sent here? "I don't know."

Hallucinations and delusions: Patient says he heard "voices" in the past during "my attack;" says he is unable (don't care to) to tell exactly what they said; that he hears none now; that he is unable to say just when they ceased. He thinks "he probably heard some when he was crazy," saying "one can't tell very well what happened then. I was long enough crazy." He thinks he "may" have seen some visions or unusual things when he was "crazy." "A man was after me with a hatchet, yelling at me to 'shut up.'" A minute later says this was an actual experience, but it is more likely a delusional interpretation of one. Says there was some "poison" in his food at one of the hospitals; that he ate it, but "nothing could kill me." Says "they put me in electric beds and sent me down into a hole of water; you know what it was; one of those padre cells like they used to have in Spain. They threw me down into this place like a baby, and I was so weak I came up again." He illustrates by gestures and words how they jerked him up by some sort of "machine patent," saying: "You try to lay down in the bed, someone pushes the button, and down you go into the water again." These happened at Fort William McKinley. Says he can not tell who did them. Insists that they are actual experiences and is positive they were not imaginary (no insight into them). At one time he intended to kill himself and had made all preliminary arrangements, but a friend prevented him. No one now tries to harm him, and no other hallucinatory or delusional ideas can be obtained from him. "When I was crazy I could not talk or say a word."

Emotional status: Is very talkative, but good natured and answers questions to the best of his ability.

Differentiation tests: Horse and ox; asks "what is an ox;" when told, he says "a horse is an intelligent animal, and ox is good for eating or to work on farms." Tries of own accord to explain how vaccine virus is obtained from cattle, but makes poor showing. Water and ice: "Water is plain; ice is frozen." Moderately difficult problems in arithmetic well done. Knows all common holidays, but has a rather hazy idea of their significance.

His answers to questions in history, geography, and in regard to current events show very poor grasp of all of them. Repeated a short story fairly well, adding, "That's a kid story." Says he likes it well here and would like to "stay awhile," but the "chow" is "bum;" "rotten."

Physical and neurological examination: Well-nourished white male, Italian, age 26 years; 64 inches tall, weight in proportion. No marked stigmata, protruded tongue deviates slightly to the right. Operation scar right side of neck from removal of glands in childhood.

Knee jerks quite exaggerated. He here points to a tiny scar over the patella and volunteers the information that during his stay in hospital "my leg was hurt and the bones ran out;" "an operation was required." Probably delusional, as there is no evidence of such an injury. Wassermann and urine tests negative. Otherwise negative.

On December 6, 1912, his nurse reported him to be noisy and restless, liked to play games, neat and tidy in habits, got along well in ward. Good appetite and slept well.

General actions continued apparently normal until January 7, 1913, on which date he was allowed parole of the hospital grounds, which he kept.

Discharged from hospital February 6, 1913, as recovered, but with some remaining defect; no active symptoms.

J. W. General prisoner; admitted August 13, 1912; 24 years old. Family history unknown; what he can give is unreliable. He interperses his answers to questions with absurd remarks of various kinds.

Personal history as given by himself: Born in Louisiana, June 13, 1889; childhood normal. School, 6 to 17; was in eighth grade. "I had no difficulty in learning; in fact, I have too much education;" "that is one of the reasons why I am so full of craziness." Worked "very little after leaving school. Bummed around the streets," then a little later enlisted of his own accord. He says his father is a "high-class nigger" in Louisiana. "I am also a high-class nigger" (he is white). Enlisted in New York in June, 1908. Got along "pretty well" until he deserted in 1910 (1909 correct). Was apprehended and sentenced to serve two years. Three previous convictions by summary court were considered. Sentence began December 14, 1910. Denies drug addiction; "used alcohol only when some one forced him to." Ceased to masturbate because he found it no longer "did him any good." Onset of present illness—patient says it began "by being in confinement and craziness took effect on me about four months ago." "There was too much knocking around the prison and confinement caused my illness." History shows that he claimed to have sniffed cocaine and was under observation for insanity in December, 1911. The onset of disease was said to have been gradual; he lay for days with a blank look without speaking unless pressed to answer a question, generally caressing genitals with his hands.

Physical and neurological were negative at his post; same here. While I was testing his eyes for the power of convergence he said, "Gee, that goes to my head," and pointed to a spot in the occipital region as the site of the pain.

Mental examination August 14, 1912, by writer: Orientation. Date? August 12, 1912. Place? Washington, D. C. Finally, after much questioning, each question being given an evasive answer, it was determined that he really knew the nature of the hospital. Why sent here? "Because I thought I was crazy." What kind of people here? "One or two are crazy." Of his own accord later, "They wouldn't be here if they were not." He "believes" I am a doctor, "but is not certain." Has a rather good recollection of his journey here, but expresses it in most disconnected and fragmentary sentences.

Insight: Are you crazy? "I need some rest; I've got craziness in me." Asked me, "Do you know any way to take this refined craziness out of my head." Can you think? "Yes; fine." How is your memory? "Fine." Does your head hurt? "No; nothing wrong with it." He has no insight.

Emotional status: Are you sad? Happy? "I am happy; I am happy." Why? "Just happy, that's all." If you heard your mother was dead how would you feel? "I would not feel sorry; what good would it be; it would only make me that much crazier." Later he adds that he would naturally feel sorry if he heard such news.

Says he sleeps well and does not dream. Do you see things or visions? "I see visions of men passing; that is about all." They do not talk. Where are they going? "Oh, they are on their way;" says he heard no voices. Do you feel electricity? "Yes; I can put electricity in myself, in my teeth, and in my arms." How? He says he takes tobacco, fills it with electricity, then takes a chew with water and it feels good. This, he says, keeps the craziness refined, so that it just has to come out of him.

During the examination he is constantly moving one or both legs. Does it "because it is my nature." "Craziness affects me in the head; makes me different; keeps me from seeing as I want to." Attributes it to his troubles and his confinement.

Speech is normal. He keeps the right hand constantly in the left axilla in order, as he says, "to rest it." Of a short story read to him he repeats only a short sentence and gives that with a reverse meaning. Civil War, 1776. Remembers no generals. Names three European countries and capitals correctly, but does not know the capital of Louisiana. He repeats numbers of eight digits correctly when he can attend to it, which is once in three efforts. He uses words given him in sentences.

Differentiation tests: A horse is a horse; an ox is an ox. One can understand, the other can't. Water is distilled and ice is not.

Ice is cold and water is not unless you put ice in it. Intersperses the above with many silly, senseless remarks. Very poor response.

Simple arithmetic done correctly. Can name the week days and months forward and backward correctly. Able to name all ordinary holidays and give correct significance. A physician's note made shortly after admission showed that he was quiet, well behaved, and rather seclusive. Consciousness was clear, but he was only approximately oriented. Said he was in the hospital because of "crazy insanity." Appeared to realize subjectively that he was insane and made futile attempts to explain why he was so. With much effort at concentration says his head feels unnatural, empty like; visions as above described. His body feels queer, like his intestines are going down into his legs; at night something seems to be coming out of his body. At times this seems to be his voice, but he can't quite understand what it says. Often laughs without provocation. Says spontaneously, "I guess it will take some time to take the craziness out of me. I am giving up my high-class bearing, you know; I am a nigger's son; a high-class nigger's son; if he don't help me, I guess the other guy in England will help me. I will go to heaven when I die anyway."

Later on he was very much disturbed because he felt a "turantoola, a long black bug, in the back of his head, pulling and tearing his eyes out." It is eating him up. Was noisy and agitated and fearful in this belief for two months or more until it disappeared in October, but he even then believed it had been there.

During that month a big whale with shiny eyes bounced up and down in his room, said "Boo-boo and went kerchunk." Heard unpleasant voices all the time. Since that time he has been restless but indifferent, untidy, gradually deteriorating; believes he should be allowed to leave the hospital.

In the following pages are given descriptions of dementia precox cases admitted from the service. These are of the catatonic form.

Case C. W. Admitted to Government Hospital for the Insane from Lettermann General Hospital November 18, 1912.

Family history: One uncle and one sister suffered from mental disturbance, but recovered. Rheumatism in father.

Personal history: All information given by patient is in response to direct questions, as, for instance, Your full name? "C. W." Born? "East Liverpool, Ohio." When? "Can not say." Schooling? "Some." Says he can not tell when or where he first enlisted nor how long he has been in service. Says he is now in K Company, Sixteenth Infantry (c). Your captain's name? "Don't know." Your colonel? "Col. Y." (c). He says that he thinks he once served in A Company, Tenth Infantry, and that he is now in his second enlistment. Says he was a laborer prior to enlist-

ment and worked in numerous places over the central part of the United States.

Enlisted the second time at Fort Logan, Colo., and served with his regiment in Alaska. Where is your regiment now? "Presidio" (c). Denies gonorrhea; says he doesn't know as to lues or chancroid.

His record shows that he drinks in moderation. No previous attacks. No peculiarities noted until December, 1911, when it was noticed that he was forgetful and sluggish mentally. Was in this state for about six months before being admitted to Lettermann General Hospital, July 22, 1912. In the hospital he became depressed and talked of suicide; face was blank; mask-like; had tremor of tongue; no light reaction of pupils. Evident defect of comprehension and memory and general emotional coloring of depression.

On arrival at Government Hospital for the Insane his ability to give an account of his past life spontaneously was nil. As extracted from him by direct questions (see above) it was substantially correct.

Present illness, December 3, 1912, by writer:

Are you sick? "Yes." When did you get sick? "On the ship coming home from Alaska." The date? "He can not say" (late summer, 1911). What was the matter with you? "I don't know." Persistent questioning does not bring out any better answer. Can not even tell what he thought was the matter with him. He seldom gave other than one of the three answers, "Yes," "No," "I don't know."

Mental examination at Government Hospital for the Insane, December 3, 1912, 16 days after admission.

Orientation: What place is this? "Near Washington, ain't it?" Are you in a hospital? "Yes." Name of it? "I don't know." Kind of people here? "I don't know." How long have you been here? "I don't know." About how long? "About a week." Where did you come from? "Frisco." How? "On a train." Who brought you? "I don't know." Was it an officer? "Yes." His name? "I don't know." What is the day of the month? "I don't know." What month? "I don't know." Day of the week? "I don't know." What year is it? "I don't know." Who am I? "You said you was Capt. King." He probably did know the correct answers to the above questions.

Emotional status: Are you sad or happy? "No; I don't feel happy." Are you down-hearted? "Yes." Why?" I don't know." Anyone mistreated you in any way? "No." What do you want? "I don't know."

Insight: Are you sick? "Yes." What is the matter? "I don't know." Can you think? "Not very good." Why can't you? "I don't know." How long since you could think well? "Before I

left Alaska." Is there anything wrong with your head? "Yes." What? "I don't know." He could give no further explanation of his trouble. Are you crazy? "No; I am sick." Is unable to give even an opinion as to what is the matter with him. Was it right to send you here? "No, sir." Why? With some difficulty he intimated that he knows this is an asylum, and as he thinks he is not crazy he should not have been sent here.

Hallucinations: To all questions to bring these out he gave the same answer, "No." Same as to delusions. Could not make any sentences with words given him. What is the difference between water and ice? "I don't know." Again asked in a loud tone, he answered "water melts into ice." Difference between horse and ox, dwarf and child, sheep and goat, answered "I don't know."

Some difficulty in pronouncing "Methodist Episcopal "and "statistical."

Name the days of the week. "I can not." Given a start, he names them. Says a 2-cent stamp is "kind of blue," but he does not know the color of a 1-cent stamp. Declares he can name no holidays. Can not give name of President nor date of Civil War. Says Mississippi is largest river; Chicago is the largest city in the United States.

Name the days of the week. "I can not." Given a start, he names them both forward and backward correctly. Same as to months of year, only he can not name them backward.

The above gives an accurate idea of the character of the patient's answers to questions. The patient's appearance indicates great depression, his answers are given very slowly, suggesting the retardation of manic depressive. Does not elaborate ideas, does not impress me as withholding information voluntarily, simply can not give it, though it is really there. During the entire examination all information was elicited by direct questions.

Physical and neurological, December 3, 1912, by writer: Moderately well nourished white male, medium height, slightly overweight. Tongue shows (apparently) slight muscular weakness with fine tremor. Paresis of muscles of left side of face (apparently). Knee jerks exaggerated; left more than the right. Station O. K. Slight incoordination of movement in both upper and lower extremities. Gait slow and lazy like, as if feet were very heavy.

Plantar reflex very active.

Pupils equally contracted—right regular in outline, left slightly irregular. On looking to extreme left there seems to be some weakness of external ocular muscles. Eyes do not converge properly on a near point. Pupils react properly to sympathetic irritation (pinching neck); to accommodation test no cooperation of patient could be secured; there was only slight reaction to direct or consensual light.

Both tendo-achilles jerks exaggerated; right more than left. Otherwise, examination was negative.

Patient obeyed orders as promptly and as well as he could. Based on the above examination, the patient appeared to be quite deteriorated mentally.

Between date of admission and January 15, 1913, the patient kept to himself most of the time, though he usually would readily do anything he was told. He at times refused to eat and had to be tube-fed. Rarely talked with anyone. Once or twice he cleared up and became slightly more cheerful for a day or two, lapsing again into his former state of apparent complete indifference to his surroundings.

During the next month he was the same, occasionally refusing food.

March 20, 1913, he had moderately exaggerated knee jerks, both sides; station good; sluggish reaction of both pupils to direct light, pupils otherwise normal. During the month of March it was necessary to tube-feed him most of the time. He showed absolutely no interest in his surroundings and lay all day on one of the settees in the ward, never speaking to anyone. Will give monosyllabic answers to questions only after much persuasion and then in a disinterested monotonous tone. He thinks he is sick, can not get well, and for that reason sees no use in eating.

Continued practically unchanged up to June 30, 1913, though at times he would eat well for a couple of weeks. Very careless of his person and clothing.

From the above history one would readily suspect paresis from the physical symptoms, but they are due to his catatonic state. All serological examinations, including examination of the cerebrospinal fluid, were negative. A case of catatonic precox not infrequently shows such physical condition as was here present. Little or no improvement has occurred.

Case W. J. F.; age 32; good education. Became insane at his post May 1, 1913, when he suddenly was excited and irrational, walked floor all night, laughing and singing, dropping to his knees in prayer every 10 or 15 minutes. His roommates had noted that he had seemed distracted and peculiar for two months previous. His previous history was negative in all respects so far as could be learned. Urine and Wassermann tests negative.

When he left his post he is noted to have answered questions irrationally or rationally apparently as caprice dictated. He defecated and urinated on the floor, smeared excreta on his face with hands. Capricious as to eating. Emptied a bag of smoking tobacco in his coffee and drank same; effect on him not stated. When admitted

here May 19, 1913, he refused to answer any question whatever. If an answer was insisted upon he would rise in bed, look out of a window, point with finger and say "Did you see it?" Mumbled unintelligible things to himself frequently. Pugnacious and profane when an attempt was made to vaccinate him.

In June he conducted himself fairly well. Seclusive, kept to himself, and rarely spoke to others. Frequently talked to himself, and at times would suddenly jump up, begin to laugh and clap his hands. Answers to questions wholly irrelevant, and if questions repeated he at once arose and walked away. During July he spent most of the day walking up and down the inclosed porch, declaiming in a loud tone, gesticulating, and assuming various oratorical poses. Very untidy in his dress but tidy in habits. Until the present time, August, 1913, he has remained as above described.

L. J. Admitted May 3, 1913; age 20. A few months in service. Fairly well educated.

On May 5 examined by me. Answered questions very slowly, a long pause before answering; sits rigid in his chair, every muscle tense, save slight relaxation of eyelids occasionally. His neck is stiffened, chin tilted slightly upward and turned slightly to the left. No change from this attitude during entire examination except when requested; then when left alone he almost at once assumed it again. He gave absolutely no information except in the form of very short, often monosyllabic answers to direct questions. All here given are replies to direct questions. Answers given in a wholly mechanical manner.

Personal history: When asked where born he said "Here in the United States." What town? "Northern Kansas." What town? "Pennsylvania;" "I do not remember the town." He was born in New York; sent here from Kansas. Birth given correctly. What illnesses have you had? "I had this kind of shaking and when I see a light I shake." Says used alcohol at 13. "I have never gotten used to liquor." "I have been drunk all the time for the past year." By direct and persistent questioning it was learned that he, after leaving school, worked one and one-half years, then enlisted in Army in 1912 at Fort Slocum. Claims he was only 17, but his father consented to his enlistment as 19 years of age.

Present illness: Claims he was put in hospital on account of "those spells." Can not explain further, but says, "I went into a place where I wasn't needed in Kansas in a hospital. I had too many things to attend to and I went right back there." History from Fort Leavenworth shows one sister to have been hysterical, and patient drank to excess at times. Frequently depressed for a day, and masturbated frequently. No history of definite previous attacks save those of depression. Since February, 1913, he acted in an

unusual manner in his company and heard voices; voices speaking and threatening him. At time of transfer here he is noted to have been exceedingly quiet, seldom uttering a word; stood for hours in one position gazing vacantly into space. Very slovenly in habits and poorly oriented for time and person. Insisted that he was in charge of quarters by order of some unknown person.

I made the following mental examination on May 3, 1913, at Government Hospital for the Insane:

Orientation: Where are you? "Here in Fort Reed Hospital." Do you mean Walter Reed Hospital? "Yes." What city is near? "I don't know." Is it Washington? "Yes." Where is Washington? "In Seattle." How long here? "Four hours" (c.) Where did you come from? "I don't know; I don't know." What month is it? "April." What date? "Third." Week day? "First of the week." Season? "Fall." Year? "Fourth year." Fourth year of what? "1914." Who am I? "Surgeon." Says he was sent here "to see if things were clean." Emotionally he seems utterly indifferent. Are you sad? "Kind of sad." Why? "I don't know how things look." "I ain't worried."

Insight: Are you insane? "No; I ain't sick." Says his head feels "about the same," and his mind is "all right." Can you think? "Yes, I am able to think." Are you crazy? "Might be; yes, a little crazy." Why do you think you are crazy? "I see and think that." His ability to think and to carry to completion mental processes appears at this point to be completely blocked and he stops. Later he tries to pronounce the test words Methodist Episcopal, etc., but makes a poor showing. It might be due to a congenital speech defect, but is more probably due to an inability to make the necessary effort to pronounce them well. He scarcely moves a muscle in speaking.

Hallucinations: Do you hear voices now? "Yes." From where do they come? "Right up here" [indicating a point in the air about 2 inches from his right ear]. They say, "How are you," and are the voices of the air and the clouds. They also say "keep near." Hears a little bell near his left eye. Also hears "boiling" near his right ear. Sounds located just above his right eye say "Go around." He has "pains" and several other "sensations," which are located in the air about 2 inches from his head. Quite a number of others of a similar type. He saw a "clear white picture" and "a little ball" 2 inches in front of his right ear. When he would answer questions as to school knowledge, events around him, and general information which one would expect him to possess, he gave correct answers. Very often failed to reply.

Physical: He sat motionless, barely moving lips when speaking; all muscles tense. Scarcely worked his eyelids. Movements done at

command were slow and "heavylike." His face is unpleasantly "greasy" looking, skin "shiny," comedones numerous, a few white hairs on upper lip and scattered over face. Nose red and inflamed. He could scarcely be said to be in a state of "waxy flexibility," but when arms or legs are placed in any position, he leaves them there. Totally uninterested in what is done to him. An unusual number of anatomical stigmata of degeneracy. Moderate accumulation of saliva in mouth, tongue coated, only partially protruded at command. Will follow a finger with eyes, but can not be gotten to turn his head from its fixed position for more than a second, and only slightly then. Mute unless spoken to, and then gives the shortest possible answer. No cooperation from him in making any part of the physical or neurological tests, some of them therefore not very satisfactory.

Slight general increase of reflexes. Less sensitive to pain than normal persons, at least he shows no reaction to painful stimuli. Was very homesick at his post; wanted to go home to mother. No disease of body found. Ophthalomogist reported retinitis both eyes. Urine and Wassermann negative.

June 30, 1913, there was little or no change in the patient.

D. G. Admitted January 30, 1913. Practically no history obtainable at his post, Columbus Barracks. On December 29, 1912, he began praying to his wall locker in the squad room. No previous peculiarities noted. For three weeks prior to admission here had been in a stuporous condition. Urinated and defecated in bed. Refused food at times. When first admitted there had visions of God and prayed incessantly. Took no notice of things in his environment.

During February, 1913, at Government Hospital for the Insane, he lay in bed, saliva dropping from mouth, mute, and when moved had to be carried. Very untidy and had to be tube-fed. Toward latter part of month ate voluntarily on three days. During March and April, 1913, he lay in bed, mute, rarely moved at all. Saliva collected in his mouth, became putrid (unless removed), and drooled from angles of mouth. Tube-fed twice daily. General health fair. During May, 1913, he remained mute and was tube-fed; took a trifle more interest in his surroundings; continued untidy in habits. Until June 19 he was the same and tube-fed daily. On June 19 he suddenly arose, asked for food, and has continued to have a ravenous appetite, often trying to steal food. However, until August 27 he was still mute, untidy in habits, and almost indifferent to those about him. Since August 27 patient has continued to improve and on the 29th of September was examined mentally and physically. He came into the room, sat down when told, and generally obeyed commands promptly; manifested a moderate degree of interest in what was going on. There are some remains of muscular tension of the

catatonic state from which he has only recently emerged. He is able to give the following history:

September 29, 1913, said that he was unable to remember anything about his grandparents. His English is moderately good only. He is able to understand sufficiently well to serve his every-day purposes, but his comprehension of involved sentences is not at all good. He says his father is living, 41 years of age, a man moderately well to do, engaged in the iron business in Russia. His mother is living, he thinks, about 43 years of age, and is well. He says that he has four brothers and three sisters, who are all well. Patient is the third child. Says that all his brothers, sisters, and parents are at present in Russia. He has an aunt in this country with whom he made his home on his arrival.

Personal history: He was born in a small town in southern Russia December 26, 1892. He says that his school life consisted of seven years, at the end of which he had attained the fourth class in the gymnasium, which he thinks is equal to the high school in this country. He scarcely impresses one as having attained that degree of knowledge. He says he ceased attending school at 17 years of age, and at that time went to work as a bookkeeper's helper in an office, holding the position for five months, when he secured another which he held for six months, at the end of which time he migrated to the United States, arriving in New York in February, 1910, on the steamship *Breslau*. He started to learn the fur trade in New York, but it seems that he kept at it only four months. He was employed in a store for six months. Secured work as a tinner's helper in an automobile factory in New York and in 1911 went to Detroit, remaining seven or eight months. He then enlisted, being sworn in at Columbus Barracks, not being able to give the date of enlistment. He says that he got along well in the Army, liked his work, and would like to go back to the Army now. He denies the facts reported in his history that he prayed to his wall locker or that he was in a stuporous condition, urinated and defecated in bed, refused food, etc. He also had visions, which he denies.

Present illness: As the origin of his present illness, which began as above described, he says he was playing football, he fell down in fatigue, had heart symptoms, which he tries to describe. He says this was about nine months ago, which is incorrect.

Medical certificate states: No history of relatives obtainable. Patient used alcohol mildly. No evidence of sexual excess or abnormal sexual habits. First symptoms of the disease became manifest December 29, 1912. Began praying to his wall locker in the squad room.

Present symptoms: Has been in stuporous condition for past three weeks. Urinates and defecates in bed. At times refuses food.

When first admitted had visions from God and prayed incessantly. Now refuses to talk. Takes no notice of surroundings. Probable cause not known. No suicidal or homicidal tendencies observed.

Mental examination September 29, 1913, by writer.

Orientation: Place? "Hospital." What hospital? "Washington Hospital, at Washington, D. C." Is it a hospital for crazy people? "Not for crazy people, for English people." How long have you been here? "About six months, I guess" (eight months correct). Who are your physicians? "I don't know." Says, however, he knows them by sight. He knows some of the attendants and nurses.

Emotional status: How do you feel; sad? "Feel all right; not worried; I feel good." He says, "Of course, I'm not like I was before. I wasn't much strong in the Army."

Insight: Are you sick? "No, sir." Have you been? "I have not been sick since I have been in the United States." Have you been in a hospital? "I have been in a hospital about a year and sick." What was the matter with you? "Nothing the matter while in the hospital." He says he is quite sure his mind is all right, that during the entire time he has been in the hospital he has been able to think perfectly, and he is convinced that his memory is not at all impaired. Have you ever been crazy? "No, never. My mind is all right all the time. Just the first three months while I was in the barracks hospital I was a little sick." Why were you sent to an insane hospital? "I don't know." Do you like it here? "Yes." Do you want to stay? "I don't know."

Hallucinations and delusions: Patient denies absolutely hearing any voices or any other unusual noises at any time during his illness. He denies the visual hallucinations which are mentioned in the medical certificate. Denies all forms of delusions. He was asked if he remembered the time during which he was tube fed. He first says he has always eaten; then says he does not know why he would not eat, adding that tube feeding is better for the heart; than adding that his heart has been all right. He has not even had headache. Asked again why he did not eat, he says that the only reason was that they simply tube fed him and brought him nothing to eat. Had they done so he would have eaten it (which, of course, is not true).

He was asked to make sentences, using certain words in them as hunter, dog, gun. Was unable to comprehend what was desired.

Asked to differentiate between ice and water, he said, "They are the same thing. Ice is the same as water." Difference between horse and cow? He replied, "They are the same thing; there is no difference."

He was able to repeat forward, numbers of 6 digits. He was unable to repeat 3 digits backward. Did not seem to understand what was desired.

Forward and backward associative power: Patient is unable to name the week days forward or backward in English. He named them forward and backward with apparently little difficulty in German. Same remarks apply to the months except that he experiences more difficulty in completing the repetition.

Calculations: Simple calculations in addition, subtraction, etc., were well done. A problem involving addition and subtraction was readily answered.

Special memory: He readily remembered a given address after five or more minutes. Names Mr. Wilson as President, but thinks Mr. Roosevelt preceded him.

General information: Says he knows no American holidays and has forgotten all the Russian ones that he formerly knew. Not very interested in the subject.

Cowboy story: The short story about the cowboy and his dog was read to the patient. He could not be gotten to attempt to repeat it. Says "I can't."

He says that Nicholas II is Czar of Russia. The last great Russian war was with the Japanese, in 1896. After this fight there was a revolution in 1909 in which his brother was involved. The patient shows moderate familiarity with Russian events a number of years back, likewise the same in America. Of recent events he has little or no knowledge. With some difficulty he is able to name the capital of Russia and its former capital.

Summary: During the examination he was quiet and scarcely moved. Gave his answers in short, more or less jerky sentences. At times the answer was entirely foreign to the point. Generally speaking, however, they adhered rather closely to it. He showed no pronounced negativism, at times evaded answering certain questions, but on the whole showed rather marked improvement, despite the quite evident defect remaining.

Physical examination September 29, 1913: Shows a rather fat, well developed, adult Russian. There are no marked stigmata of degeneration. Obeys simple commands readily; rather slow of comprehension. At times he is quite indifferent, taciturn; speaks with a foreign accent.

Abdomen prominent. Pupils do not react to direct light as well as they should. There is a scar on the scapula caused by a piece of flying iron in 1909; it was not serious. A rather marked degree of muscular tension exists. The thought process not plastic, by any means. Otherwise the examination was negative.

Case L. White male; age 35 on admission to Government Hospital for the Insane November 18, 1912. In service greater part of time since 1899. Quartermaster sergeant of his company when taken ill. Admitted from Lettermann General Hospital. From the records it seems that he had a double plus Wassermann reaction in February, 1912; also suffered at that time from acute articular rheumatism. This at his post, Fort Douglas, Utah. In March, 1912, following these, he became agitated and depressed; thought people were trying to shoot him, and saw a "warning on the wall." Made two attempts at suicide. Nothing was known of any mental peculiarities prior to that time, when he, in addition to the above signs, spoke always in a very low and monotonous tone, and took little or no interest in his surroundings.

On November 18, 1912, when admitted here, he showed absolutely no interest in his surroundings. When addressed he gave, after a very appreciable delay, monosyllabic answers to one or two questions, then became mute. Obeyed simple commands, "raise your hand," "put out your tongue." Pupils contracted, excursion somewhat diminished, otherwise normal. Took food and attended to the calls of nature. Remained in just this state until December 11, when the following notes were made by me: He entered the examining room very slowly, facial aspect of despair. Very seldom spoke of his own accord during the interview. Did not respond to the greeting, "good morning." Where were you born? No response. How do you feel? (After one and one-fourth minutes.) "Miserable." What is the trouble? "Everybody knows more about me than I know myself." Answers given in a very low and dejected tone. There is "no need of his answering questions; no good can come of it." He "is lost utterly, and no help can save him." Does anything worry you, sergeant? "I am a wreck." What is the cause? (After 26 seconds.) "I keep sinking lower and lower." What is the day of the month? (After 40 seconds.) "December 10, 1912." (11th C.) Place? (After 40 seconds.) "St. Elizabeth's, Washington, D. C." Can't remember his nurse's name; says he knows her when he sees her. Why are you here? "That's the reason I am here; they wouldn't discharge me." Do you want to die? "Be a good thing; I couldn't reenlist." Why? "They said I was sick." When was this? "A long time ago; a year ago" (after 20 seconds). What was the matter? "I was there in the hospital; they gave me 606" (he had one dose at Fort Douglas). He asks, "How did I get here? I didn't want to come here." Where did you want to go? "Back to my regiment" (from Presidio). He shakes his head mournfully, almost cries, and says, "I can't go back there." Has anyone got it in for you? "Most everyone." Why are you so sad? "There is no hope for me, no place; no use in me answering any questions; it will

not do any good for me. Everybody knows more about me than I know myself." Are you sick? "A physical wreck." Is it syphilis? "Yes (he nods affirmatively); I guess so." Why did you shoot yourself? "To take the long sleep." Many other questions were asked, but the only reason he would give for shooting himself was, "I wanted to die." Says he really does not know what the trouble with him is. "Yes; that's the trouble; I don't know; everybody else seems to know." He thinks people watch him all the time, but when asked "why" gives no reply.

Said he believed in religion. Do you think your soul may be lost? "No hope for me." But, sergeant, you may recover and be yourself again. Shakes his head in a despairing way, says, "No, no, no." Pupils show no disturbance; knee jerks are normal. Says he has a headache all the time. Some rheumatic pain in right shoulder.

During this interview sat motionless in melancholic attitude; nothing could be said to have aroused any interest in him. Until the end of January, 1913, there was little or no change. During February he brightened up somewhat; at times talked freely and read magazines. Still kept to himself. Until March 22 he continued to improve, though he said he had no clear recollection of events for the year just past. Still believes he would have been better off had he "finished the job."

On March 7, 1913, he was able to give a fairly good family and personal history.

Heredity not bad. He was born in Pennsylvania, March 7, 1876. Moderate schooling. Childhood and youth seem to have been normal. Almost continuously in service since 1899, usually noncommissioned officer with excellent character. Used alcohol moderately, but more in the last two years.

Onset of present illness (by patient, March 7, 1913). In February, 1913, he stepped on a nail and was in hospital for several weeks. Soon got rheumatism; was quite sick; knees and shoulders involved. "There was a period there when I must have went to pieces, I guess, as they had me locked up in a cell." Soon afterwards shot himself in the left side with service rifle, inflicting a moderately severe flesh wound. Shot himself "because I could see no future; everybody was calling me vile names; have continued to do so, and still do it now. When they don't actually speak, they insinuate it." Still sorry he didn't kill self.

Mental examination March 7, 1913, by writer: Correctly oriented in all fields.

Emotional status: Are you sad or happy? "I am miserable; I can't see any hope in the future; this place [Government Hospital for the Insane] hasn't helped me one bit. I should not have been sent here." Are you worried? "I have just drifted along; I have the

contempt of everyone." How do you know? "Can't I see it in their actions and talk?"

Insight: Are you sick? "I am not healthy; you can see that." Is your mind all right? "Yes, sir; I think so. I don't see why they took me from Douglas, sent me to Lettermann, and kept me locked up, I don't know how long." Are you insane or crazy? "No, sir." Ever been? "I guess there was a period shortly after I went to the hospital when I was out of my mind." (No insight.)

Hallucinations.—Auditory: Everyone at the Lettermann Hospital called him all sorts of vile names and accused him of all kinds of the vilest of sexual crimes. For this he says, "I can see no reason." Does not hear the voices "anyways often" of late. "I didn't have the nerve and strength to contradict my accusers." Hospital Corps men started it, but ever since he has been here he has heard the "same old voices and the same old things." Whose voices? "All the fellows that came here with me and everybody who knew me." Becomes a little more alert, and says, "Doctor, what is the diagnosis in my case, and why was I brought here?"

Visual hallucinations: Do you ever see strange things? "I haven't had any peace of mind since God knows when." "Since here I have brightened up, but that has only increased my mental worry." Worry about what? "That I am in here, not doing duty." Also worried because he thinks "606" and typhoid prophylactic injured him. "There is no hope for me." No visual hallucinations.

No delusions could be brought out other than as noted above. He recites quite correctly the details of his coming here in November, 1912, and repeats the test phrases, statistical, etc., well. Becomes depressed, and says, "Don't you think I would be better off if I was out of the way? I am no good any more. I am a mental and physical wreck. My blood is in bad shape. Look at my hand; it's that way all over my body. [The hand is normal.] My bowels don't move. All this is caused by neglect for the past year since I shot myself. I don't just remember what happened after I shot myself, but I remember one thing; I would not believe anything anyone told me."

He makes the impression to-day of one just awaking from a heavy sleep induced by some narcotic. General questions as to school knowledge and other facts acquired prior to onset of his illness he answered in accordance with his advantages.

Physical and neurological negative, except that knee jerks are moderately exaggerated bilaterally. Retarded in movement. Hypochondriacal to a certain extent.

Wassermann reaction positive double plus in February, 1912. In November, 1912, it was weak in the blood serum, negative with the

cerebrospinal fluid; cells in latter 2 per cubic millimeter, protein content not increased; fluid clear.

Same repeated in May, 1913, with similar result. Urine negative. In June, 1912, he was accurately oriented, but had inadequate insight into his condition, though he did believe the voices which he formerly heard to have been "imaginary." No delusions; appears to take a normal interest in himself and his surroundings. The only defect apparent is a partial loss of ability to think, to properly associate ideas.

The following are illustrative cases of paranoid dementia precox, as we see it in the service:

P. S. Private H. C.; age 36 years; nativity uncertain; single; fair education.

This patient has been in the hospital since June 2, 1913. He has been helping in the douche room, and is reported to be a very intelligent assistant. Seen to-day, he was told the physician desired to ask him some questions and asked if he would answer them. He wanted to know the purpose of the questioning. He was told it was to make a record for the hospital. He declined to answer the questions, saying, "I have no record to make; my health has always been good; my records show that." Despite his denial of willingness to answer questions, he, in reality, did so, but little could be gotten from him as to family and personal history.

He was asked if his father was living. He said that he desired to say "With people who have and are unable to give a definition of insanity and admit that they are only studying insanity, I do not care to answer any questions. I wish to say that I have just as much right to demand my discharge as they have to ask me questions. If they can show me a law of any kind which defines insanity, I will stay here all my life, but they can't do it," and more to the same effect. "I can't say as to my father; I haven't heard from him since September. He is 78 years old." Says his mother is dead. He thinks she died of heart failure. Says he told them in the recruiting office that his father was born in Germany, which is incorrect. His father, like himself, was born in America and was an American.

Patient say he was born in New York. He is now 36 years old. No history of any value can be gotten of his early life, as he immediately began to talk about his various delusions when asked questions. Says he served in the Navy from 1894 to 1898, four years and three months. Got along well; received an honorable discharge. Says he is a veteran of the Spanish-American War. After his discharge from the Navy he was home with his mother and other members of the family in the florist business until 1907, when he enlisted in the Army, serving in the Hospital Corps until December, 1910,

when he was discharged, he says, with character excellent. Says he took the course of instruction here in Washington, Company C, then spent two years in the Philippines, where he got along fine. Never was sick; felt very well, indeed. One time he worked in a machine shop with Tom Platt, who is now dead. This man, he says, was a relative of Senator Platt, of New York. After his discharge in 1910 he remained out of the Army until 1912, November 17, when he reenlisted. Says that in Brooklyn when he tried to enlist they asked him about his father, where he was born, and he told them it was not any of their business, that he was enlisting, not his father. They insisted that he must tell them, and he did tell them he was born in Germany, which he now says was incorrect. He wanted to enlist in the Hospital Corps, but they told him there were no vacancies, so he went away. Said a few days later he came back and enlisted in the Infantry, saying that a friend of his who knew about the recruiting service told him there were always vacancies in the Hospital Corps at posts and he could readily transfer there. He did this. After arriving in Panama was transferred from Company K, Tenth Infantry, to the Hospital Corps. According to his story, he had always gotten along well in the world until about March 7 last. As to what happened then, see mental examination below.

Medical certificate which was received with the patient states: Patient did not indulge in drugs. History of previous attacks. Papers in his possession indicate that he was confined in the Southern State Hospital, at Patton, Cal., in June, 1911. First symptoms, November, 1912, patient began to act in an erratic manner. Talked much about his fantastic inventions. Some delusions of persecution. Patient did not come under observation until November, 1912. Present symptoms, delusions of persecution. Patient suspicious. Much interested in fantastic mechanical inventions. Disorderly. Egotistical. Emotional tone usually stable. Probable cause, predisposing causes unknown. Exciting cause is probably the nervous disturbance incident to tropical environment. Neither homicidal nor suicidal tendencies exist. Papers in his possession indicate he was treated in the Southern California State Hospital, at Patton, Cal.

Mental examination June 30, 1913, by writer.

Orientation: Patient is oriented in all fields; answered the usual questions correctly. He elaborates on every answer. Will answer the question and then start in telling his views on various things which are of a delusional nature.

Insight: He possesses no insight into his condition and his emotional attitude is well presented in the recital of his various delusional beliefs below.

Hallucinations: He denies all forms of hallucinations and denies receiving any messages or being influenced by external circumstances,

and in every manner insists that such things have never existed in his case.

Delusions: He says his trouble began the 7th of last March, when he was working under the direction of the mess sergeant at Camp Otis, Canal Zone, along with some other men, moving boxes from one storeroom to another. Says that prior to this he had always done his duty. Recites the various duties in which he had been in the Hospital Corps. Said while they were working here the second sergeant, who said his name was Sparks, came and said Stein was to go to Ancon. He said he supposed it was on some duty, so he went upstairs and asked for his order. He received no satisfaction. He recites rather dramatically how he asked for his order several times and was told that he was not to receive an order but was to go to Ancon. He says that he then asked to see his major surgeon. The first sergeant said the major was not there at the time. Sergt. Sparks then took him to the train and he was placed in the hospital car. He recites in detail then how he was taken to Ancon, taken in an ambulance up to the hospital and "around behind" where there was a building with the words Ancon Insane Hospital over the gate. He says he was taken into the office and sat there about two hours listening to somebody questioning two colored men; then some one said to him, "I don't know what to do with you." He says that he replied, "If you don't know what to do with me, I certainly don't know what to do with myself." The doctor then said, "Well, I guess I'll put you in the white house," which he did. He recites how he lived for over two months in this ward, getting along fine, doing just about as he is here, according to him, except that he got into what he calls a muss with a big man named Brooks, who was about three times the size of himself. He says that shortly after he entered this ward this man, who believed that every man wanted to hurt him, began to talk to the patient and act in a queer way, and when the patient started to walk away he followed him, finally jumping at him, the patient says, just like they do in "Dr. Jekyll and Mr. Hyde," the play. He caught the patient around the throat, and it was necessary, as he says, to beat him up with a brush before he could get away from him. Patient says he beat him in order to save himself. He says that he knows of no reason whatever why he should have been thought insane at Camp Otis. He says he had very little to say to the doctors there and they never talked with him or examined him in any way; but he thinks that the reason he is here is because the doctors, which one he does not know, whether Maj. Ford or Lieuts. Jones or Pariseau, thought he was crazy. As he says, because they thought he was crazy they issued an order to have him sent here, which, he says, is a grave violation of his rights under the Constitution; and he asked the question very forcibly and dramati-

cally, "Have I no constitutional rights?" His production is more or less disconnected, and he very often repeats what he has said a short time before. He says that after two months or so he was brought to New York on the ship *Advance* by Sergt. Sparks and then brought here. Says he thinks it is a perfectly great violation of the Constitution to have him here, and he says he is very anxious to get out. He knows he is not insane and should not be here.

Following some questions about Europe, etc., he said, "I don't pay any attention to them things," meaning the various names of European countries. "I am an American; I don't even pay attention to the Christian Church. I pay attention only to the Constitution of the United States, which is my holy law. My emblem is the flag. The Constitution should be the religion of the country." He argues at great length on this point. Says the Constitution is "my holy law." He says, "I call all religion rot," and he says that he thinks religions belong to Europe, each religion to its own place of origin; that is, the Roman Church to the country around Rome, the Jewish Church to that country in Asia and Africa which they call the Holy Land, the Greek Church to its place of origin; Allah's religion belongs to Turkey and the Mohammedan countries; Mercury's law belongs to Greece; and the American laws belong here. He thinks all these various religions should be put out of America. He would like to see some law come to put them all out of existence, as he says they are against American law. The members of these various religions, or, as he translates, "religious laws," are against American law, and they will shield each other and in this way they overpower American law. "Where would you like to go or what would you like to do?" "It is immaterial to me; I am obeying my orders, and when I get out of here I shall certainly bring those doctors to court when they return to the United States," referring to the surgeons in Panama. He says the reason he is in the hospital is because he is a soldier and has to obey orders. He says he was ordered to come here and he had to either obey that order or go before a court-martial for disobedience. He says either way he would get the worst of it.

In describing how he landed in New York he says, with an air of mystery, "I could have done a certain little thing in New York." Asked to explain it, says that certain little thing he could have done is that he could have walked away while the man in charge of him was not looking had he so desired, but he did not so desire, as his point was to come here and leave his case in the hands of the physicians in this hospital, and he thinks maybe they will be of benefit to him. There are some "people" to whom he will get word somehow, and who will come here and who will not hesitate to act. Voluntarily he says, "Christianity is the cause of it all, my being in

here, because I believe that the American law is greater than Christian religion, or Roman or Mercury's, etc., and he recites the various religions. He says he does not think the Jews approve of the way that he does things. He does his duty according to the American way, which, of course, is a violation of theirs. Says he would like to get out of here as soon as he can, because he is wasting time here. His life is gradually going, he says; all of us have only a certain time to live, and there is considerable work he has to do yet. He has much business, some with the Patent Office; has the blue prints, etc., all ready.

Patient was asked the difference between horse and ox. He said: "A horse is used for drawing loads, etc. An ox is also used to draw loads, etc. One the flesh can be eaten, the other it can also be eaten, but is not on account of disease of the horse. The horse has no horns." Continued for quite a while in a similar strain.

Calculations: $6\times6=36$; $27\div3=24$. When reminded that the problem was divide, not subtract, he said 9.

Shark story: The son of Indiana governor was swept overboard in storm and bitten by shark. All we could see after the shark had bitten him was a dark streak of blood.

Asked to tell the meaning of the proverb "early to bed and early to rise," etc., he said it was a saying of certain men of old times for the purpose of taking and keeping a moral lesson in the minds of children and people who would immorally abuse themselves. "That is something I don't do."

Special memory: The last three presidents? Wilson, Taft, and Roosevelt. Civil War? '61 to '65. Generals, Grant and Lee. Patient says he has been in Turkey, Italy, Greece, England, France, and Germany in Europe. He also gave Morocco as being in Europe, showing to the physician's mind that he was not thinking particularly of what he was saying, as when his attention was called to it he readily knew where Morocco is really located.

Says the only disease from which he ever suffered was smallpox, in 1879. Denies venereal disease of any nature.

During the examination the patient was at times suspicious, inclined to be on his guard. He has absolutely no insight into his condition, is distinctly grandiose in his belief in himself, egotistical in his mental attitude, has numerous delusions which do not appear to me to be at all systematized, rather loosely connected. One could scarcely call them persecutory in type, they are more his explanations of the happenings in many instances. Apparently his memory and general store of acquired knowledge are not diminished, though it seems to me that there is a quite evident emotional deterioration. At times he is very dramatic in his recital of his experience, and his chief ideas seem to hinge about his belief in the superiority of the

American Constitution and the American laws over the others, including divine. He attempted no violence during the examination, and despite his statement that he did not care to answer questions, usually did so, though often his answer was by no means confined to the point at issue, and he usually continued to talk in a more or less disconnected strain until interrupted or asked to stop.

Additional information, obtained from Adjutant General July 7, 1913:

Family history: No information obtained except from patient. Patient states that father and mother died at an advanced age, but was not able to state the causes of their respective deaths; alleges neither suffered from any psychoneurotic disorders to his certain knowledge. Family of 18 (?) children, of which patient is the sixteenth child—10 sisters and 1 brother living and in good health and free from mental affections. Two brothers accidentally killed; one sister (married) found with her throat cut, supposedly a suicide. Alleges no insanity among near relatives.

Personal history: Denies all previous diseases (including venereal), except smallpox when 2 years old. Denies convulsions, delirium, head injury, rheumatism, or neuritis. There is no evidence of his using alcohol or drugs or having excessive sexual intercourse. Patient denies any previous mental disturbances, but papers found on his person indicate that he was confined in the Southern California State Hospital at Patton, Cal., during June, 1911, and also that it was necessary for him to obtain the permission of the superintendent before being allowed to communicate with his relatives. It is presumed that this institution cares for the insane. He has followed many occupations. Up to 1894 he was engaged in the florist business with his mother. In 1894 he enlisted in the Navy and served a full enlistment, receiving an honorable discharge. After this he worked as a florist, policeman, manager of his own establishment, etc., but never succeeded financially in any undertaking. He then enlisted in the Army and served a full enlistment, with an honorable discharge. Two years after his discharge he decided to reenlist, and at the present time has served about six months. Various communications show that he spends a large part of his time in inventing (?) numerous mechanical devices and is considering getting patents for them. Thus he planned a class of house for which he desired to obtain a patent, and he advised his sister that he desired to do good and build houses for the Philippine Government as well as for the American Nation. A small book carried by patient at time of admission shows the following, apparently in his handwriting:

"The 10th of May shall B Holiday—from March 21, 1911, when the Newera started—Saturday May 11—Morning—8.30 P. M. May 11, New York time—Greek God Mercury appeared in sky over

athens. Has the queen of greese seen New York time? T. off and on Power—Down to stars up to Heaven. Mr. Stein, no home, no wife, nothing.

"I am the god of the People—when I look upon a woman her blood comes to me and I purify it and send it Back to an other. The People who have died give up their blood to the Moon—the Moon Drew it up the same as it draws water. I looked at the Moon and the blood comes to me—then I give it to the Woman again and they bear children again. When a woman Dies at night the moon takes the blood and cerum in the day the sun takes the blood—my body is made so that I can take the blood from either one of the two and give it to the Woman—I am what is Known as god—every so many years I am Born at the age of 33 years—I take my Power from the Moon and it enters my Body in the form of forsifirus—it enters my body by coming over me in the form of myself. If you rub a match upon the wall you can see the fire that is the forsfickference of the form—It comes over me and its nose touches mine and it turns in my Left side—my eyes open and I see the face of god upon my face, every time I think of my face I see the face of god. I live just so and ask you for your kind assistance to help me Learn the Woman How to Live. I have new ways and Plans. I will show them to you and explain if you will give me time. I am your god again on earth, Born in a different body—If you look at me the winder you will see the face of god.—to look at me in the winder go into the next room and make a Mental Picture of me—think of my form and you shall see—I think you for your reading.

"Kindly help me to bring about the new way of living By Becoming a member of the club I am forming—I ask you to place down $100. dols to pay the rest off in Week or Monthly Payments as Best you can or get the new way of living started. I have to do this, Yours Thankfclly (signed) God Paul." (Paul is his Christian name.)

(This notebook also shows many mechanical (?) drawings and addresses of construction companies.)

Present illness: Patient has been acting in a queer manner ever since arriving in the Canal Zone (November, 1912). He has talked a great deal about his inventions. He walked the floor during the middle of the night and has always seemed to be preoccupied. He claims to have plans for a tunnel from New York to China in which he is to run cars operated by the force of "gravedy" (not gravitation). He also has plans for a tunnel to New York from Panama by way of San Francisco. He has plans for some type of house which he claims he has had patented. His inventions are for humanity and nobody is to make money out of any of them. He has delusions

of persecution and thinks that "they" are talking about him. Has the delusion that he is a god. Says there are four gods and that he is God Paul. He states that he will come into power in 1915 and will kill all the Jews. These delusions do not become apparent, except when questioner has his confidence. He converses clearly and connectedly with a good comprehension of all that is said to him. His memory is good for events, but he is disoriented as to time. Believes this month to be August. He is totally unable to account for his being placed in an insane asylum, unless it be that the surgeons at Camp Otis were displeased with him. He thinks that one of the surgeons may have placed him in the asylum in order to profit from some of his inventions. His manner in general is courteous and his emotional tone very stable. He has good power of attention. He is neat and tidy in general appearance. He made a strenuous denial of his having ever been an inmate in a hospital in California, but has admitted that he had a nervous breakdown while in California in 1911. He seems to have an exalted opinion of himself and his face shows a pleased expression when talking about himself. He sleeps well, has a good appetite, and is of robust constitution. He displays considerable egotism at times. He has stated that he could build the Panama Canal much more cheaply than the Government is doing it now. He claims a natural gift for construction work which greatly offsets any lack of technical training and experience. He believes that he has the power of projecting his thoughts on a building in such a way that others can read them. Since admission to the asylum he has been orderly except on one occasion, when he struck another patient with a broom. He stated that he was acting in self-defense. He has no suicidal or homicidal tendencies. His insight is poor. He does not believe that he is insane, and claims that anyone with superior intelligence will be imposed upon and treated in a similar manner in order that designing persons may profit by their knowledge. States that the medical profession is behind the times in its knowledge relative to insanity, and claims to have a new definition for this condition, and that those persons who are supposed to be insane are only weakened temporarily through excessive sexual intercourse and other riotous living, and that he can correct these disorders by regulating the mode of living after his own ideas. January 1, 1914, he is unchanged. Physically in excellent condition.

T. L. B. Private, prison guard; age, 36 years; single; grammar-school education; laborer.

Father was high-tempered; mother died of tuberculosis at 36. Otherwise family history is negative.

Patient, youngest of four children, was born in 1875. Birth normal; stammered in childhood. At 17 suffered for one year from somnambulism. School in country from 8 to 18. Worked as laborer.

etc., until July, 1901, when he enlisted. Served three years; discharged "very good"; private; had no trials. In 25 days spent the $200 he had saved. Next enlistment was in prison guard; was tried twice for a. w. o. l. Served three years; character "very good." Reenlisted in C. A. C.; ankle caused him trouble and he was transferred to prison guard. Purchased his discharge and was out 25 months.

Health record as a whole is good. Says he has had lues, but Wassermann is negative.

Present illness: About the early part of 1912 he was on duty with the Alcatraz prison guard; says members of company acted "peculiarly and distant." This was due to jealousy because he had once been a member of the Leavenworth guard. Lieut. A. came to the company, and patient says he was to a certain extent the cause of his trouble. All the patient said was noted by the first sergeant in writing. He says he was accused of all sorts of stuff, and his comrades wouldn't associate with him. The cook wrote things down; every time patient was on guard something happened to cause him to be confined. Says Lieut A. gave him orders which it was impossible to carry out, and when he stated this, was confined and general charges preferred for insubordination. (He was tried and given a sentence.) Says that while serving this in the guardhouse he was watched and report made of all he did. He was also tortured in the guardhouse, he says. He was watched at table, and heard them say he would get 15 years. Was sent to Lettermann General Hospital in February, 1912. Says he could speak one word and one officer would be placed in arrest; he could speak another and this one would be released and some other placed in arrest. The Masons tried to prove charges against his moral character. He says while there he had $3,000, of which the commanding officer took $1,600 to put in a court theater. Says he could never learn what was done with $600 which his brother sent him. Officers and people in San Francisco wrote plays about him for which he says he received $360 weekly. The Catholic priests represented the Catholic empire, and took one side of the question. They watched him in confinement. His words and acts were noted and put on the stage as a play. The thirty-second degree Masons are on one side, the Catholics on the other. Patient was ordered to be hung 14 times. A ship came in the harbor, patient was told that if he spoke a certain word, this ship would take him to Liverpool. He said it, and at once an order was given to cut off his head. They wanted not him, but his head. He was given a court or royal theater in San Francisco. The vigilance party made up the sum to give him a crown of diamonds, which he never received; the ship got the crown. He here produced a newspaper clipping showing a woman with a jewelled crown on her head; calls her Net Ziensa. The crown was to be given to King George. Patient

says he is himself a remarkable man; that only one in five hundred are chosen to act in these plays. His enemies, he says, have accused him of unmoral practices. Everyone in the country knows all about his trouble; those in France and England also know about it. The same things are to occur at Government Hospital for the Insane as have taken place at other hospitals. If he is proven guilty of immorality, the Masons must pay $15,000,000. They have $115,000,000 as against a billion held by the Roman Catholics. Goulds, Carnegie, and Rockefeller are involved in this affair. He is the "go-between of the Masons and Catholics."

Physically he is a well-developed, well-nourished man, weighs 165 pounds, and is 70½ inches tall. General physical and neurological negative. Urine negative. Mental examination June 15, 1912. Correctly oriented in all spheres.

Knows the nature of the hospital; says he was sent here because they had to send him here to get control of his property. He wishes to return to the service.

He is sure there is nothing the matter with his mind except occasionally it gets "bunched up" for a minute or two because there is "too much on it."

Says he is melancholic now and has been so all of his life. Has never been very happy; usually downhearted.

Hallucinations: Says he was doped at the Presidio; they injected nicotine into his heel with a needle. They stuck something into his nose. He was given 15 grains of "toxido," which kept him at the point of death for three days. Some kind of an odor was used also which may have come from a machine in the building.

Auditory: People would talk about him after he had been doped. They also brought people before him handcuffed, for instance, George Gould, John D. Rockefeller, Carnegie and son, and Leonard Wood. Also newspaper reporters and detective bureaus came in. Patient convicted a man who had killed a man. All this occurred when he was under the influence of nicotine. He felt peculiar sensations of the skin, flesh became numb, needles were put into him.

Delusions: See above.

Speech is normal. Dreams are usually pleasant. Could not repeat a story read to him.

Memory slightly impaired.

General fund of information not noticeably reduced, considering his station and education, but he is not very familiar with current events.

When admitted he caused no trouble; did not associate much with those about him; had little to say and was generally idle during entire day. Condition remained unchanged until about August 1, 1912, when he began to ask frequently what charges were preferred

against him. Delusions and hallucinations of the nature described above continued prominent. Later in the month he was noisy, talked to himself a great deal, and was evidently greatly disturbed by his delusions and hallucinations; until December 1, 1912, there was no essential change.

During December, 1912, he was taciturn, rarely spoke, same delusions and hallucinations continued. Occasionally requested discharge.

About January 15, 1913, he began to make strenuous objections to his detention, complained that the War Department sent him here and held him from spite. Auditory hallucinations were much in evidence; he complained about the talk of "that old woman," and "some men on the outside," adding, "I know those people are in cahoots with the other gang."

Entirely lacks insight and demands justice. He is, however, well behaved but idle; lounges about, sits for hours at a time gazing out of the window in an abstracted way.

In April, 1913, he was quiet; becoming more demented, but still complained of his persecutions as above. In July, 1913, he lounged about on a settee most of the time, absolutely ignored fellow patients, very taciturn and reserved with physicians, entertains similar delusions and hallucinations.

Chapter II.

MANIC DEPRESSIVE PSYCHOSIS.

Basing our opinion on the cases seen here, this is a rather rare disease in our Army. During the past four years there have been admitted from general prisoners and officers and enlisted men on the active list cases as follows:

June 1, 1909, to June 1, 1910, no officers, six enlisted men, and two general prisoners. One enlisted man was admitted with "involution melancholia," which is now coming to be regarded by many, and probably is, a form of manic depressive psychosis.

June 1, 1910, to June 1, 1911, four enlisted men.

June 1, 1911, to June 1, 1912, four enlisted men and one general prisoner.

June 1, 1912, to June 1, 1913, only two cases, both enlisted men; one other was very suggestive, but can not be definitely placed in this group, at least not yet.

A knowledge of the various affective (exalted and depressed states) forms of mental disorder dates from the earliest psychiatry, and a connection between them was early discerned, despite their apparently different nature (15). It was also noted that these affective forms of disease showed a tendency to recur repeatedly in the life of an individual. (They could return, because the patients seemingly recovered from the single attacks.) Observing the peculiarities of course, the older writers described various forms of insanity showing emotional exaltation and depression as the cardinal points in the symptom picture. There were "simple," mania and melancholia, in which, at least theoretically, the chief change present was excitement or depression; the patient recovering might be considered restored and no more liable to future attacks than he was prior to his illness. Other cases showed periodical attacks which were described as "periodical insanity," either mania or melancholia. In other patients the mental disturbance was periodical, but one attack might be maniacal in type, another melancholic, and not seldom one seemed to alternate with the other; hence the names "alternating" and "circular" insanity came to be used.

In certain cases all the attacks seemed to be either of exaltation or of depression, while in others both types might occur in the same patient, in some instances one type passing into the other type. This

way of looking at the disease was very confusing; they endeavored to set up and support the different types above mentioned as separate diseases and tried to find and describe symptoms sufficient for their differentiation. This proved difficult and is probably impossible from the modern viewpoint, and naturally lead to heated disputes between various schools (15).

In speaking of the development of the theory of manic depressive insanity Stransky (15) says:

> The merit of having exemplified the clinical relation between mania and melancholia is inseparably connected with the two names, Falret the elder and Baillargers. Although early literature contains description of cases of circular insanity, and the comparison of the course with a circle goes back as far as Greisenger (prior to 1850), the elder Falret was the first to describe circular insanity as a typical combination of mania and melancholia. To Baillargers belongs the merit of being the first to emphasize sharply the close connection between manic and depressive in the picture as a whole and the clinical unity of the same as expressed in his nomenclature (folie a double form) (insanity of double form). Their conceptions represent the starting and pivotal point of the more recent conceptions of manic depressive insanity * * *. They recognized the constitutional, degenerative basis, but apparently not entirely the chronic nature of the disease as described by them, but attempted to sharply separate the circular forms of disease from the "simple" and recurring forms * * *.

Magnan's conception attributed a close connection between most manic and melancholic diseases, be they isolated or combined, and placed their origin on a degenerative basis, but he attempted to separate other forms of mania and melancholia likewise based on a hereditary degenerative tendency, from those forms actually intermitting, i. e., circular insanity or insanity of double form. This offers an important basis for Kraepelin's teachings.

The theories of Falret and Baillargers that those cases in which mania and melancholic states alternated were one disease based on a degenerative tendency, and Magnan's ideas, as above stated, were by no means universally accepted, and prior to Kraepelin's publication of his theory of manic depressive insanity (after 1890) there was evident striving everywhere to separate by lines as distinct and sharp as possible the individual forms of manic and melancholic psychosis one from the other, the simple "manias" and "melancholias" from the "periodic" and "recurring" forms, and, again, the periodic forms in which the recurrence was always of the same type as the first attack from the circular type.

This period has been called by Deny the French period of manic depressive insanity, this period ending with the publication of Kraepelin's ideas on the subject.

Stransky adds that the French period is by no means closed as yet, for not only in France are important representatives left who hold to the pre-Kraepelinian beliefs (Regis, Ritti and others), but prom-

inent leaders of German schools of the present. (Ziehen in Berlin, V. Wagner in Vienna, Pick in Prague, and others.) Tanzi (5) adheres to what may be called a similar tendency, in that he does not admit the truth of the Kraepelinian conception, but would confine the term manic depressive insanity to cases with ascertained periodicity.

The cases described by the authors as simple melancholia and manias, recurrent, periodic, circular, alternating insanity, etc., and which are now beginning to be generally recognized as one disease, manic depressive insanity, and whose prognosis is in perhaps 90+ per cent of cases good for the individual attack, were not until the closing years of the nineteenth century clearly separated from the other great class of acute psychosis; that is, the ones now included in the dementia precox group. It was recognized that many cases of acute beginning psychosis apparently recovered and others demented, this dementia being spoken of as "secondary" to the acute condition. Among the first to attempt to get away from the symptomatological classification was Kahlbaum, who in the sixties of last century described a very extensive group of cases which he believed to be similar in nature, but which presented a varying symptomatology and which he called Vesania typica. This was a very extensive group including the majority of insane persons; in fact, according to Tanzi (5), he placed in it all cases except general paresis, paranoid conditions, epilepsy, hysteria, alcoholism, and imbecility (included all congenital defect states). It in reality included principally the cases which we now classify as catatonic and hebephrenic dementia precox and manic depressive insanity.

Tanzi (5), speaking of the origin of the conception of the manic-depressive psychosis, says "the two syndromes, emotional depression and exaltation, may appear in varying forms in any mental disease, but they are of essential importance in the conditions known (formerly generally regarded as separate diseases and still held to so exist by Tanzi, Ziehen, and others), as manias and melancholia. The individuality of these two types was generally recognized until 1863 (a connection only being seen in the "circular" form). Kahlbaum then postulated a connection between depression and exaltation, regarding them always, wherever they occurred, simply as mental states and as a part of the symptomatology of his Vesania typica. In his mind everything was this Vesania typica except general paresis, paranoia, epilepsy, hysteria, alcoholism, and imbecility.

This Vesania typica included, of course, the great majority of insane persons (all of the manic depressive and most of the precox group as we now see it), and was usually chronic (his chronic cases of Vesania typica are the hebephrenic and catatonic precox cases of the present; the ones which recovered belonged in the present manic-

depressive group), but some recovered. Classical Vesania typica was divided into four phases, melancholia, mania, confusion, and terminal dementia, the one phase succeeding the other.

If the order of appearance were disturbed or any of the stages omitted it was still Vesania typica, but in an incomplete form. Thus, according to Kahlbaum, an attack of depression or exaltation, formerly called melancholia or mania, was to be known as incomplete Vesania typica whether the attack was recovered from or ended in permanent mental infirmity.

These views are generally (and correctly so) held to be erroneous at the present time. While his Vesania typica was a fiction with no practical consistency, yet he first recognized in it hebephrenia (now hebephrenic precox) and catatonia (now catatonic precox).

Kraepelin, in effect, took the Vesania typica group and divided it. As finally completed, his one group, dementia precox, included all of the cases of Vesania typica which ended in dementia, to which he added the paranoid forms of mental disease which showed intellectual deterioration. The case which recovered from the individual acute attacks (of depression and exaltation) without mental deterioration he classified otherwise.

Attacks of exaltation and depression are of frequent occurrence in dementia precox, but are accompanied by other signs, generally quite characteristic of the disease.

The cases showing exaltation or depression (manias or melancholias), but which ended in restoration to the normal (usually with good insight), he (Kraepelin) included under a single name, considering it is a chronic constitutional disease with two different aspects (manic phase and depressed phase) and not as two acute and distinct diseases.

Tanzi believes that Kraepelin is in error in including all such cases under manic depressive; he would include only cases with ascertained periodicity.

Kraepelin's position in regard to the development of the theory of manic depressive insanity is, again to quote Stransky (15) : He takes it for granted that the aspirations of the pre-Kraepelinian times culminated in an effort to find grounds for the differentiation of simple cases of affective disturbance (exaltation and depression) from those whose course was "recurrent," "circular," etc. Briefly stated much excellent work was done, but the separation could never be satisfactorily accomplished.

Kraepelin in effect realized the hopelessness of this attempt at differentiation, and simply collected the whole crowd of simple, recurring, and circular forms under the one designation, manic depressive psychosis, looking upon the various pictures as simply different phases of a chronic constitutional mental disorder, from which the

patient never actually recovered, but in whose course there are remissions of varying duration in which to all intents and purposes the patient is well (recoveries from the individual attack).

Manic depressive insanity has two chief phases, the exalted and the depressed. Almost any variation of either may occur, and as excellent descriptions of the symptomatology of this disease are available, we will omit it here, confining ourselves to the description of some cases. (See especially the account in White's "Outlines," fourth edition (8), or in the German of Kraepelin and others.)

Points to be remembered in connection with this disease are the following:

1. That the principal cause seems to be hereditary taint. White writes "it is noteworthy that this disease is often found in families, the constitutional condition as the basis on which it develops appearing to be directly transmitted."

2. The attacks often come on without any apparent cause.

3. That in a soldier suffering from this disease most careful inquiry should be made into his family history and search of his personal history for previous attacks before the disease is recorded as "in line of duty."

4. Mistakes in diagnosis are most frequently made by mistaking the excitements of dementia precox or the early stages of general paresis for the manic phase or depressions or stuporous states in the same diseases for the depressed phase.

Paresis can be differentiated by careful neurological examination and by serological methods. Precox should usually be recognized by a search for the various symptoms set down in the chapter under that heading.

Other remarks on diagnosis will be found in the works referred to above.

5. Should the question arise, Has a patient in whom manic depressive has been diagnosed recovered? one of the best tests is to determine if insight is present. Practically all cases when they have recovered from the individual attack realize that they have been insane and usually will discuss their symptoms freely and fully. Precox cases practically never attain insight, even those who are discharged as "recovered." A patient recovered from an attack of manic depressive psychosis should not be returned to the service, save under very exceptional circumstances. The same rule applies to all forms of mental alienation.

6. Our experience and a careful study of the cases coming here from both the Army and Navy indicates that this form of mental disease is for some reason rare in both services. We find it much less often than our previous information led us to expect. It is on the whole not a particularly common affection in the male sex, being

much more frequent in women, some writers of note holding that about two-thirds of the cases are in females. We suggest careful consideration of a case in all its phases before manic-depressive psychosis is diagnosed.

7. In the past three years one instance of the depressed form of this disease has been received here from the military service, indicating the great rarity of that form in officers and enlisted men. Many depressed cases have been admitted, but the depression has been due to other causes. We cite one depressed case only, for that reason.

Examined April 30, 1913. Shows both manic and depressed periods.

F. J. Z. Bohemian; born in United States; 25 years old; admitted April 24, 1913. When he entered the examining room he was very talkative, talking very rapidly and almost without ceasing. If he is asked to talk slowly, the interruption causes him to lose the thought connection and he immediately jumps to another idea. Patient is much elated, boisterous, flight of ideas marked. He is able to give a good family history, which, as he gives it, shows no taint.

Born in Horvell, Nebr., January, 1888. Life uneventful until 13 years old. Then he fell from a horse onto the frozen ground, was stunned for a minute or two, got up, and rode on. At school during the next two months was melancholy, and felt as if he had no life in him, then got well. During that summer he says he was overworked in the harvest, and when he went back to school in fall was unable to study; he felt sleepy. Without his father's consent he quit school; went to work in a butcher's shop. Patient egotistically says, "The doctor said I got acute consumption there and was as good as dead, but I refused to take any medicine; ate only eggs and milk and was well in two months." The next year he did various things, but principally worked on a farm. "I was the big guy, doing all the work." Conversation becomes rapid, disconnected, showing marked "flight of ideas." At 18, he says, he again fell off a horse. "I was getting rather wild; I kept 'raising hell' until the folks said I had to go to a hospital in Omaha." Was taken to Council Bluffs for observation. He didn't want to go; fought and "raised so much hell" that "they had to carry me up and kept me strapped in bed for 10 days." Says he was "excited, fighting and raising hell so much that brain fever developed. I was all right and perfectly well until I developed this brain fever," which he thinks was caused by his asylum treatment. He says he could have been turned loose at end of 10 days, but he was "so sore at them for keeping him there that he raised hell again and they kept him a month longer." Returned to his home in 1907, after a number of months in hospital. Thinks he was not insane and did not need hospital treatment; it was all due to brain fever. "I went home and learned from some papers I saw that the

folks would have to sell the store to pay for my treatment and this broke my heart and I had melancholia, lasting two months."

"Hoboed it" for six months in 1907. Then was on a farm for one and one-half years and felt fine. While visiting a sister in Omaha "had a fright" and couldn't talk for a week.

Enlisted in March, 1908, and for two years got along fine. During the last year he was depressed at times; at other times "pretty lively"; read a great deal. When depressed drank some beer. Discharged in 1911; excellent character according to him. Reenlisted in June, 1911, for Jefferson Barracks.

Present illness: He says his present trouble began in September, 1912. He gives it in a very disconnected manner, but pieced together it is about as follows: He had a furlough from July 15 to October 15, 1912; while at home his grandmother died and this worried him. He was worried, dizzy, depressed, his mind was inactive (retardation, difficulty of thinking), so that when his furlough was up his brother had to put him on the train. When he reached St. Louis he felt some better, but couldn't do duty on account of the state of his mind, so he asked to be put in hospital. Was in hospital at Jefferson Barracks October 20, 1912, to November 3, 1912, and from November 21 to December 23, 1912; diagnosis, "acute melancholia;" apparently cured on discharge. Patient says he did no duty until February, 1913. He had hypochondriacal ideas, believed he had appendicitis, and had a "run-in" with a noncommissioned officer. On account of this he was confined April 5, 1913, and then sent to hospital, thence here. History shows that about March 1, 1913, he became talkative, boisterous, and combative, which increased until he became insubordinate, actions erratic. Symptoms given as marked mental exaltation, exaggerated ego, voluble and loquacious, defective judgment.

Mental examination by me April 30, 1913. Is perfectly oriented in all spheres.

Emotional status: Is elated, mildly grandiose, distractible, in a mildly manic state. At times shows marked psychomotor activity.

Insight none. Says his mind is all right; it always was. He is not sick. Attributes all his past trouble to physical ailments. His head is all right, he says, except that he believes that when he fell off that horse he got a blood clot in his brain. Has had catarrh of the head for 13 years. Says he has recently improved (?) and he figures it out that the blood clot has faded out and he feels fine now. Says he is not insane and has never been. Was sent here to get a disability discharge, he thinks; he isn't sure and does not care.

He denies hallucinations.

Has transitory delusional ideas, mostly misinterpretations of actual occurrences.

He was asked to make a sentence in which occurred the words pen, ink, and paper. He said: "The pen is to write, the ink to dip the pen in, the paper is the what, what, I am just thinking what that is, I want to think just what the paper is. I can't get the word. The paper is the thing you write on, etc.

"Water is liquid"; "ice is frozen."

"A lie is a person telling a story; a mistake is doing something you didn't intend to do."

He here volunteers the information that he has the power to foresee things; he is a little different from other people, at least a fortune teller so said. When he can keep his attention on them he does arithmetic problems easily. "I was the brightest boy in school." His memory is unimpaired.

His stock of information is in general unimpaired. He sat for the most part quietly during the interview, but talked rapidly and almost incessantly. The slightest stimulus was sufficient to start him on a lengthy speech. Marked flight of ideas, distractible, easily excited, irritable, exalted, elated, and grandiose.

Physical and neurological negative save knee jerks are exaggerated bilaterally. Urine normal. Wassermann negative.

On the ward he was hyperactive, irritable, facetious, and witty at times. Made sarcastic remarks to physician, indulging in all manner of remarks about him, not seldom somewhat uncomplimentary.

Because of his yelling at passers-by he was kept off the porches. He says he does not have to do these things, but being locked up as insane he had as well act the part. At other times he says he does it just to be "ornery." June 30, 1913, no change in the patient. About September 15 his excitement abated and he became depressed. This lasted for two months, at the end of which time he had recovered from the depression, had almost complete insight into his condition, and was discharged as recovered from the attack.

Patient X. Admitted to Government Hospital for the Insane, March 6, 1912; age 33 years on admission; white male.

Patient says he was born in 1877. Family long lived. Heredity good except mother said to have been mentally disordered during her last illness; age 63. She and her family said to have been nervous. Birth and development of patient normal up to school age. School, 6 to 20. Was in senior class of the high school. At 20 ran away from home; couldn't get along with his brother, who was principal of the school. Patient was bright in his studies.

In Volunteer Army in 1898 for six months. Was made corporal; had no trouble. Then learned telegraphy, but did not get along well. He enlisted in 1898 in the Seventeenth Infantry; served three years, including a tour in the Philippine Islands. Was a corporal;

no courts-martial. Returned to his home in 1901. Worked for two years as apprentice in machine shop. Work was too hard and he became involved in fights and was suspended in 1903. Men in shop said he was crazy, that they would leave if he did not. Got another job, but the work seemed too hard and patient feared he was getting rheumatism and going crazy. Then went to painting for a short time, then left home to seek work, but not finding it returned.

He had numerous other jobs which he only held a short time, until in March, 1904, he was appointed agent and operator at a small town on the Baltimore & Ohio Railroad.

He was worried at this time on account of his mother's illness and feared he was going crazy and asked his father to take him to a near-by asylum. He could hardly talk and could not sleep. After three weeks in the hospital, where he took baths, he was able to sleep. Diagnosis was "recurring insanity," he believes. Mother died at this time.

Apparently got along fairly well then until 1908, in which year he went to a Western State, but was discharged from his ranch job because of unsuitability. Worked a short time in a sawmill, became overheated; got into a fight; couldn't sleep; took frequent baths; put on four different suits of clothes in one day; thinks policeman watched him all day. When he wanted water he asked for it in saloons. Some bartenders complained of his actions. Went into a secondhand store and offered 75 cents for a pair of low shoes, priced 90 cents. Owner agreed. Patient then declined to buy and made an insulting remark about the race (Hebrew) of the storekeeper. He was ordered out; refused to go. Owner's wife came in and patient says called him a "bum, a god, and a knave." He was arrested and shortly afterwards committed to an insane hospital where he remained for nine months, being then discharged as recovered. History indicates that he was excited and hypomanical during this period. During the next year he had four or five different jobs for short intervals, usually getting into some trouble and being discharged. Was "sick and nervous" during part of this time. Got a night telegraphing job. Quit after one month, because could not sleep in the daytime. Had two other jobs in the next four months; still had trouble sleeping. Took "chiropractic" treatment, after which he could sleep for awhile without drugs. Then camped out for awhile. Then had a job as operator at a small railroad station where, after one month, he became nervous one night, walked 20 miles and resigned. Was at this time playful, playing tricks on people in the streets; arrested, but his attorney obtained his release. Then began to campaign for the Prohibition Party; says that as a result of his efforts the town went "dry."

Again enlisted in the Army at Fort Lawton, February, 1911, for Signal Corps. He got along on the Mexican border and at the Presidio, until December, 1911, when he went on sick report for headache. He had just prior to this time been placed under arrest and was to be tried for refusing to obey the orders of the noncommissioned officers. Was placed in the psycopathic ward, was nervous, excited, walked up and down, could not sleep, got into a fight with another patient, who he claims was making a noise after taps, preventing the patients from sleeping. Claims the noncommissioned officer had been piling too much work on him, hence his refusal to obey orders. In hospital he soon became quieter, could be placed on an open ward and allowed to walk out alone. Just prior to his trip from Presidio to Washington he was feeling well, sleeping well, and his excitement had subsided, but under the influence of the journey all these returned. To summarize, his attack, for which he was admitted, became manifest by restlessness, hyperactivity, and insubordination; was nervous and excited—insomnia; believed he was unfairly treated.

On admission here March 6, 1912, physical examination by Capt. L. L. Smith, Medical Corps, showed a well-nourished, well-developed white man. Height 67½ inches, weight 137 pounds. Chest rather narrow; hard palate, high and narrow; tongue dry; patient drank a great deal of water. Pupils moderately dilated, right slightly larger; knee jerks increased. Wassermann reaction and urine examination negative. Physical and neurological, otherwise negative. Mental examination showed him to be absolutely oriented in all respects. He knew where he was, the day, and date, when he came, from where, and by whom brought. He had an accurate understanding of the nature of the institution, but did not have adequate insight into his condition as he did not believe that he was himself mentally disordered. He thought he was only nervous; that his mind was not disordered. At time of admission he did not realize that he had ever been insane in his life.

He stated that during his life he had been depressed so many times he could not tell the number, "sometimes every month, then again only once a year." Asked how many times he had been excited, he said, "Oh, about a hundred." He said that at the beginning of the present attack he was worried because he was under arrest in quarters, and had an idea that two or three noncommissioned officers were persecuting him. He said that back in 1901 and in succeeding years, he had imagined at one time that "Catholics" were after him, because he could get no work. Once, also, in a boarding house during an excitement he imagined the waitresses put tincture of catharides in his food for purposes of their own. Also once thought his land-

lady wished him to marry her daughter and put drugs in his food to excite him. Once in another hotel he thought a waitress drugged him to get him to marry her. No other delusions.

He did not have hallucinations of any sense. Speech was normal. He was able to readily repeat a short story read to him and give the point of it. Memory was unimpaired. Readily gave the differences between horse and ox, lie and mistake, dwarf and child, etc. Simple mental arithmetic done without mistakes, though he was never very good at it, he says. He was able to give all of the ordinary holidays and the significance of each, and, generally speaking, his stock of experience was not diminished.

He was emotional, slightly exalted, hyperactive, suffered from insomnia, was very talkative, though his statements were connected and "flight of ideas" was not present.

He behaved so well during the first month here that he was given parole of the hospital grounds in April, but in May, 1912, he was, apparently without cause, very restless, talkative, constantly moving about, and very busily occupied at something all day. At night would be out in the hall singing, whistling, and running up and down. Could not sleep. Believed he was perfectly well, and demanded his discharge. Parole privileges removed. Continued just as above noted until about June 15, 1912, when he quieted down, acquired control of himself, and his physical condition improved. From his ceaseless activity and insomnia he had become reduced in weight and strength.

July 3, 1912, he was again allowed the privilege of being out on the grounds in front of his ward. But in less than a week he again became quite excited, restless, talkative, constantly doing gymnastic feats on the lawn, etc., and had to be again kept in. Continued in the same way, constantly active as described above, until September, 1912. Complained of his unfair treatment; said he was well and should be discharged. During September and October he was fairly quiet. During November he was excited, talkative. yelling, singing, constantly busy, at times cross and irritable, but mostly elated and in high good humor. Suffered much from insomnia.

During December, 1912, and January 1913, he became quiet, slept very well, the only sign of disease being constant activity. One or two short episodes of excitement, but uniformly pleasant and agreeable. About March 1, 1913, he was apparently normal in all respects and was given parole of the hospital grounds. Shortly afterwards he said he felt one of his excitements coming on and asked for a hypnotic. Says he can tell when his excitements are coming on because he is then unable to control himself; is easily irritated and angry.

On March 20 he was apparently in his normal frame of mind and was discharged as recovered, into the care of his brothers.

J. M. R. (colored). Admitted October 30, 1912; married; trader of horses; resident of District of Columbia; born in Virginia. Is so much like a white man in appearance as to be readily mistaken for one.

Was admitted to this hospital because he was very much excited, yelling at the top of his voice, using vile and profane language. Said he died on Wednesday and remained dead until Sunday. Said everyone envied him because the Lord took such good care of him. Claimed to possess the power to cast a man into hell. This occurred at his home. Examined by me, at request of another physician, on November 4, 1912. Then he gave a quite good family history, though much interfered with on account of his excessively rapid flow of speech and his great exaltation.

Personal history by patient November 4, 1912, to writer: Born in Fairfax County, Va., in 1867; healthy boy; had a good time. School until 12; ended in fifth grade. On farm until 17, when he went to Newark, N. J., where he worked for a number of years, until 1906, when he had a mental breakdown lasting several months. Thinks he may have been insane. He also had mental trouble in 1896, and has always found it more or less impossible to agree with his employers at certain times. Was married five years ago; no children, but two miscarriages. In giving the above history the patient was excessively talkative; showed marked flight of ideas, so much so, in fact, that I was unable to record anything verbatim. He was very circumstantial, going into painful detail in everything; interspersed his remarks with much profanity; at times could scarcely be kept in his chair, but on the whole was agreeable and in an excessive good humor. Claims never to have been in asylum before, though physician was consulted in his previous breakdown.

Present illness: The following is from a very verbose and disconnected account by him: Two weeks and one day ago he returned from Hagerstown, Md., where he raced a horse. There he became a little "mixed up." This was, he thinks, due to taking too much headache medicine, probably Bromo-Seltzer; when he came home his wife was rather unpleasant because he had no money to give her. Before he went away they had been having long arguments over the future of the soul, having recently heard a lecture on "Where are the dead?" No agreement had been reached, but when he returned he informed them all that he now knew where the dead were and all about heaven and hell. The Lord had made it plain to him, and he now had to ask no one to explain it to him. He says his people knew he had been "that way" before and thought he

was getting "that way" again, evidently referring to previous manic attacks, but he would give no details. He did give the time of one previous attack as in the "nineties." No one would believe him when he insisted on explaining about heaven and hell, though one uncle seemed interested. Was unable to give me his ideas on those points, his account being so rapid and disconnected as not to be understood. They prevailed upon him to see a doctor, but he was so taken up by the idea that he must explain to his friends about heaven and hell that he could not sleep that night. Insists that his wife was cranky and would not believe him. He talked all night, keeping everybody awake, and toward morning aroused the household, again explained heaven and hell and announced that "Judgment Day" was at hand; he was able, he says, to make good music on two horseshoes, though he never studied music. No one else could. He insisted that his neighbors come in, read the Bible and sing a hymn, then he would give a talk. They, however, insisted on going to work or they would lose their jobs, which he says is a foolish way for one to feel. He became more and more excited; went in the bathroom and demolished things. The police were called and he was taken to a hospital, from which he was sent here.

Mental examination.—Orientation: Correctly oriented for time, place, and person.

Emotional status: "I am as happy as happy can be." "I am always happy." Expresses a doubt whether he would be welcome in the house in which he demolished the bathroom. Uses much profanity. Never swore until he learned it was no harm to do so, provided one does it only for amusement and to pass away the time. He believes that nothing is wrong or sinful if done simply for amusement.

Insight: Are you sick? "No, sir." How is your mind? "All right." Have you ever been crazy? "No, sir." Ever out of your head? "Yes, sir; in 1896 and in 1906." He thinks he may have been crazy in 1896, but was only "out of his head" in 1906. Why were you sent here? "They must have thought I was insane." Was it right to send you here? "If they thought I was crazy, it was perfectly right for them to send me here, where there was some one to see if I was." Are you insane or out of your head now? "No, sir."

Memory is good; articulation is unimpaired; no hallucinations exist and no delusions except those in connection with religious ideas; uses words given to him and forms goods sentences.

Differentiates well between horse and ox and water and ice. Arithmetic, general school knowledge, current events, quite on a par with his education.

Repeats a short story well. Readily repeats days of week and months forward and backward.

General physical and neurological negative, save for quite considerable loss of weight and a few abscesses and abrasions on various parts of the body, no doubt due to trauma in his excited state. All deep reflexes a trifle increased.

On admission he was exalted, elated, and loquacious, speaking in a loud and boisterous tone. Very egotistical, frequently changed the subject, quite facetious, tended to look upon the whole situation as a huge joke.

Became violent at the slightest failure to get what he wanted, but attacked no one. At time of above-noted examination was irritable, excited, antagonistic in ward; filthy in habits; seemingly delighting in it; destructive to clothing and bedding; often sang for long periods, sometimes interspersing jokes. Would pray, sing, and curse at intervals. Continued during November changeable, noisy as a rule, happy, shouting, preaching, singing, abusive, complaining, and threatening though attacking no one; constantly on the move. By January 1, 1913, he was quiet, played cards and checkers, and had gained 25 pounds.

He was discharged recovered January 30, 1913. Was talkative when normal, and very circumstantial in his accounts of things. Had insight into his condition and stated after his recovery that this was his fourth excited period; he never had a depression.

DEPRESSED PHASE, MANIC-DEPRESSIVE INSANITY.

Case of W. D. T. Private, band, Twenty-ninth Infantry, admitted to Government Hospital for the Insane January 16, 1914; aged 47; married; one healthy child, 11 years old. He never heard of any mental disease in his grandparents, who reached a good age. Father died at 45 of pneumonia; ill six or seven days. He was a normal individual. His mother did at 38 of pneumonia. She was twice in an asylum. Gave birth to seven children, of whom the patient was the oldest. She was first in an asylum after the birth of her second child, a daughter, who was afterwards in a private asylum and died there quite yonng—22. The mother remained in the hospital about a year and came home. She returned again when the patient was about 14. He thinks four children were born to her between admissions. On the second admission she stayed several months, not more than a year, and he thinks that one child was born after her return. His brother and sisters: C. B. is living and well; no mental trouble, but has a bad temper and is what is called in his neighborhood a bad fellow for women; Ida has been mentioned above; Fannie is single, living, and has been in and out of asylums

since she was 16 or 18 years of age; is at present in one. Mattie is married, gets along well so far as the patient knows. J. M. is living; has no mental trouble. Birdie is married and has no mental trouble. One maternal uncle was a wild and reckless fellow—a tramp. He died, nobody ever knew where; probably alcoholic. He has heard that a very distant relative on his father's side was insane. This may not have been a blood relation. One paternal uncle had tuberculosis. One maternal aunt had some form of mental disease.

Patient was born in 1867 and remained at home until after he was 21. Meager education. Has never been arrested and used practically no alcohol. Venereal sore in 1899. At the age of 22 had mental disease and had to be put in a hospital for a short time. Says he did not feel at all as he does now; he prayed, queer spells came over him, and it seemed that his heart was full of joy; would burst out laughing, and he realizes that he was not normal at that time. He first enlisted in California, May 5, 1898, and has been practically continuously in the service since that time. For 14 years he has been a cook. Two discharges bear character good; all others excellent. He was married in September, 1902, and has gotten along well enough considering his disposition. He is very emotional as he recites the above facts, especially when he speaks of having been in a hospital. Masturbation began at an early age and has since continued, even after marriage. Wife had several miscarriages. During his service he has had frequent periods of depression and frequent periods of exaltation, but in general the attacks have been of melancholic type. No attack required his admission to a hospital until December, 1912, at which time the diagnosis was involutional melancholia.

His present illness: Wife states that the patient was depressed for several months, no cause being found. He was restless at night, could not sleep, and had fearful dreams. During this time he was working very hard as a cook; was in a hospital for a few days in December, 1913, with a diagnosis of melancholia. For a few days after his return he had performed his duties as cook in a satisfactory manner and appeared happy and contented; showed his usual love and kindness toward her and the child; caused her to feel he was again himself. On the morning of December 15, 1913, he was sent home by a noncommissioned officer in charge of another. At home he was cross and nagging, very much depressed, cried and sobbed, and later in the day suddenly grabbed his little daughter and hurled her violently against the well. When his wife intervened he became quiet, though he threatened her. She describes his appearance at that time as a raving, raging beast with bloodshot eyes. She reported the facts. It was ascertained several days later that the attack was for the purpose of intercourse with the daughter, in re-

sponse to a sudden uncontrollable desire, which he freely acknowledged; said it was a devil in him controlling his actions, which he could not do. These desires had occurred frequently before, but he had been able to abstain from actual attack. He did not injure the child.

In the latter part of December he was perfectly oriented; had insight into his condition. No hallucinations except auditory. He frequently heard harsh, unpleasant voices calling his name. He has heard these voices for some time. He had delusions, believing that he had committed awful sins by adulterous love, incest, and self-abuse, and that God was now punishing him and he was in hell; delusions that he had syphilis and was poisoning his family. These delusions disappeared in a short time. When he arrived at the Government Hospital for the Insane he was oriented.

Emotional status: How do you feel? "I feel bad; I don't feel right at all. My whole body feels numb, just numb all over. My bowels don't move." He feels sad and worried because he is ruined and can never again get along outside of the Army, and he feels quite certain that he will be discharged. He says, "I feel so queer in my head. I feel as if I had lost control of myself." His head aches all over. Suffers from constant sexual excitement, the nature of which he realizes and which causes him the greatest anxiety and worry. He says his mind is not right; that his head is all wrong; that he does not feel normal at all mentally. At times he has dizzy spells. He has perfect insight into his condition. Delusions of sin and having his soul lost, etc., are not prominent features in the case since he has been here. He has reasoned it out, more or less; thinks he will leave that matter with God. He has had no hallucinatory experiences since here, except that a few days ago it seemed as if his wife called him. He is retarded in speech and movement to some extent. He shows a marked difficulty in thinking, which leads to a seeming loss of memory at times. For instance, when asked to recall an event he has great difficulty in so doing, but on the whole his memory is not seriously impaired. Retardation is much more apparent when one watches him when he is unconscious of observation than it is in tests. He readily formed sentences with given words, differentiates correctly between water and ice, lie and mistake, etc. His general fund of information does not seem to be reduced. He can repeat the days of the week and months of the year forward and backward, but his retarded state makes him slow in doing so. It takes him 12 seconds to count from 1 to 20, and 22 seconds to count from 20 to 1. He repeats the gist of a short story slowly and correctly. He was attentive during the examination, cooperated to the best of his ability, and face and manner indicate marked depression. He asked the physician to help him. Is very anxious to overcome

the, what he calls, terrible sexual excitement. When the physician promised him help to the extent of his power he expressed his appreciation in a perfectly normal way.

Physical examination shows nothing of any particular note, except the left pupil is larger than the right. The gait is slow due to retardation. Pupillary change may be due to beginning cerebral arteriosclerosis. The patient becomes tearful at the least provocation.

At the time of the present writing, in March, 1914, there has been little or no improvement in the case. He continues very much depressed. Retardation is evident. He speaks in a very low voice, complains continuously of a severe pain in his head. He has shown since here no conduct disorder; has striven to please. This patient will in all probability recover from his present attack, though it may be a long time before he does. Instances of depression in men at this age often extend over long periods.

Chapter III.

THE PARANOID MENTAL STATES.

The Greek word "paranoia" was used in describing varieties of mental disorders in pre-Hippocratic days. For a history of the use of this word and what it has represented in psychiatry at various times during the ages see an article by Smith Ely Jelliffe, "A summary of the origins, transformations, and present-day trends of the paranoia concept," published in the Medical Record of April 5, 1913. He covers seven large pages, and the article is generally available; covers the ground and should be read in the original, as a much better idea will be gotten in that way than from quotations. A much more extensive review of the paranoia question appeared in the "Zeitschrift fur gesamte Neurologie und Psychiatrie, Ergebnisse und Referate, Band. 8 Heft 4–5." It covers over 100 pages and reviews the literature on the subject for the past 20 years. It is by Dr. Schnizer, of Metz.[1] If one is interested in the views of the psychoanalytic school on the subject of paranoid conditions articles by C. R. Payne in the first and second numbers of the Psychoanylytic Review, New York, will be found interesting.

As noted elsewhere in this work, we meet with mental states in many forms of alienation whose more or less prominent features are delusions of a persecutory and oftentimes of a grandiose type. The patients are often suspicious and not seldom egotistical to a degree. Very broadly speaking, we refer to such symptoms as a paranoid state. A characteristic in such states is that the troubles of the patient (according to him) come from without.

When paranoid states are present in mental disorders, such as psychoses due to cerebral lues, cerebral arteriosclerosis, cocainism, or other drug addiction, in chronic alcoholism, in fact, when such delusional beliefs are present in connection with any form of organic brain injury we speak of a paranoid state associated with that condition. Certain numbers of dementia precox patients show paranoid delusions (paranoid dementia precox). These make up most of the paranoid conditions admitted to this hospital from the service.

As noted under that heading, prisoners often develop paranoid states in prison. They often come to a delusional conviction that they are innocent, hence unjustly accused and imprisoned, and quite naturally feel themselves injured by their detention.

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[1] We have this review translated, and if any medical officer desires to read it, will be glad to loan it to him.—E. K.

Mild paranoidlike states are not infrequent in manic depressive insanity, as well as in other psychoses. What we wish to invite the attention of medical officers to is that the paranoid conditions are essentially symptoms, not definite diseases; at least, not according to our belief. The term paranoia as a diagnosis is very seldom required nowadays; less than one case per year reaches us from the service in which we make that diagnosis. It is reserved for cases which according to Kraepelin show "the insidious development of a properly systematized, unshakeable, mentally digested delusional field, with complete sustaining of the integrity of the personality." These he regards as essentially "abnormal developments which take place in persons psychopathically inclined under the influence of the common stimuli of life." "This type of psychic malformation explains on the one hand the extremely slow development of the disease picture, and on the other the outgrowth of the delusional field from the personality and the change of the latter without any signs of destruction."

"The triumphant conviction of their own excellence" is ever predominant. This grandiose delusion develops after all manner of inner conflicts and revolutions as the fulfillment of secret wishes and dreams. The paranoiac, disappointed by the disproportion between his hopes and the reality, glides imperceptibly from the conflict of life into the fairy land of lofty dreams.

The patients are (in their own estimation) benefactors of the world, inventors, founders of religions, claimants to thrones, etc., who base their high demands from life on their merits, their divine mission, etc., etc. Kraepelin supposes the root of this disease to be a peculiar paranoid tendency which is met with elsewhere in life as a mixture of immoderate overvaluation of self and suspicion, though not necessarily developed into paranoia. To reach this development other specially unfavorable external and inner factors must enter, according to him. (From Schnizer's review mentioned above.)

Tanzi (5), writing of a similar class of individuals, says: "Paranoia is a very rare constitutional anomaly, which remains latent for many years and manifests itself in mature age in a partial but most persistent delusion which is only the slow and permanent triumph of a preconception. The paranoical preconception gradually conquers all evidence to the contrary, and in spite of reality, public opinion, and common sense it becomes organized into a coordinated system of errors which become the tyrant of the intellectual personality and remove it by degrees outside the bounds of normality. On the other hand, however, the presence of a circumscribed delusion does not disturb the individual's judgment as to certain general questions or events of everyday life, and paranoiacs even of long standing

lose nothing of their habitual lucidity. Indeed, the singularity of their position, in constant conflict with incredulity or contradiction, compels them to sharpen their weapons of argument, and thus they are sometimes able to overcome sane persons of mediocre intelligence.

Very different from the extravagant and ridiculous ideas of paranoid dementia, and even more so from the delusions of melancholia, progressive paralysis, amentia, and dementia, which are unstable and disconnected, the delusion of genuine paranoiacs is plausible, unyielding, and nourished by a perverted but robust and irreversible logic. It often resembles in its content the religious, political, and scientific aberrations with which the path of history is strewn, but always differs from them in its origin. Such aberrations are the result of a reciprocal, widespread, and continuous suggestion which renders them excusable and inevitable as long as a new current of thought does not arise and assume the ascendancy. For these historical errors the entire race is responsible and not the isolated individual, but it is the individual alone who is responsible for paranoical error."

From our studies we conclude in regard to paranoid mental conditions in the service:

1. That from 5 to 8 per cent of our yearly insane will be paranoid dementia precox. None recover.

2. That a paranoid picture may at times be met with in various other forms of psychosis. Prognosis in accordance with underlying disease.

3. That in prisons and elsewhere paranoid mental pictures will arise, perhaps five or six per year, perhaps more, in which the underlying disease is not evident. Hallucinatory disturbances may accompany these delusional states. These recover their normal mental status when removed from the surroundings and from the stress under which the disease arose. Proper diagnosis, "paranoid state."

4. Very rarely a case corresponding to the above-described "true paranoia" will be seen. In such the diagnosis paranoia (true) is suitable. The following is probably a form of true paranoia as outlined above. In chief he gave of his own accord the following history of his life:

C. J. Admitted in May, 1913, a well-developed, well-nourished man, whose general intelligence seems quite unimpaired. Memory, etc., excellent. No physical ailments; on parole since about August, 1913; conduct excellent. He said, "I was born in Chelsea, Middlesex, London, England. At 14 I came to Canada." Were you ever in the English Army? "Yes, sir." Tell me your experiences. "I joined in 1892, and was at first stationed in Scotland, and from there

I went to Malta, an island in the Mediterranean, from there to Gibraltar, and from there to South Africa." What was your rank? "I was a corporal. My father belonged to the old school of army officers when it was necessary to have an income to be an officer." Was he wealthy? "Yes; at one time; but he died in comparative poverty. He lost it in the army, the Fourth Royal Irish Dragoons. I did not bother about promotion, because I thought it was no good. I was charged with two crimes in the army which I did not commit. I was on duty at the gate as noncommissioned officer. The duties were similar to those of a policeman, and I was kept there two or three hours longer than I should have been, and I made complaint to the sergeant in charge, and he sent a man there to relieve me. I was charged with leaving my post without authority. The other one, of course, was technical." The only complaint he has about the English Army is that they gave him "good" character only, when "very good" was necessary for him "to earn a livelihood." "You must have at least 'very good' to be a policeman. I left the army in 1904 and came to the United States in 1906, being employed in the interval as a race-course official. I joined the American Army in 1906 at Fort Slocum (in H. C.) and then came to Washington, D. C., going to Cuba with the troops in 1906. In Cuba a great deal of trouble arose and a great deal of prejudice against me because Maj. X. (his surgeon) made a great fuss over me, and it seemed to me very undesirable. Everything I did he made much of and I thought it very silly. He took a fancy to me. This thing went on for a long time, and the prejudice against me got worse, and so after about a year I went down and informed Maj. W. (retired British officer living in Cuba) that I could not make heads nor tails of the matter, and that so far as I could judge they were trying to make my acquaintance socially. I went down as a matter of form to explain myself. After awhile the officers of the regiment gave vent to a sigh when I passed them. I considered that this was a very ill-bred action, for their actions had been such as to make one think they were desirous of picking me out socially. After that I refused to have anything more to do with them socially, and I simply looked straight to the front. Mrs. X. was also coming up to the hospital, and I could not make head or tail of the business at all, so I went down to Maj. W. to straighten it out. They kept on asking themselves, 'Do you think he is a gentleman?' and all that sort of thing, and I thought to myself, I have told you the truth and the truth about my age, and whether I am a gentleman or not makes no difference. They seemed to think there was something in my manner and appearance to show that I was well bred and an English gentleman, and whether it would be safe to pick me up. Later on I refused to obey an order, and they gave me three months. Maj. X.

investigated all this and found that I had been greatly exasperated, and that the whole thing was dirty and unfair. As I could not make head or tail, as I could not understand the manner of the people who appeared to be desirous of picking me out socially, I went down to Maj. W. and told him that, 'You know, sir, a gentleman ranker has to keep his place the same as anybody else and I do not understand it,' and what he did I don't know, but after that I knew what to do and refused all advancements. It was all by means of smiles and sighs. Well, they carried on a campaign of what is known in the British Army as hazing and insinuated that I was a bastard and a 'sod,' and I heard whispers as I was passing. The object was to prevent me from becoming acquainted with these people. After my first enlistment I went back to England and resumed my occupation as race-horse official. In 1910, shortly after the death of King Edward, I came back to the United States and enlisted. Between 1910 and 1913 I went to Canada and served in the Canadian Army. While there I saw a large number of very extraordinary pictures of the King and Queen and various members of the English aristocracy and nobility, people belonging to the royal family. These pictures were very extraordinary. Her Majesty the Queen of England and King George were pictured in very strange attitudes. They were so numerous and so many that I could not describe them. One was where His Majesty King George was depicted holding his telescope in a manner which looked as if he were holding a horse's penis. There were thousands of others. I got so tired looking at that that I refused to look at them any longer. At that time, which was about 1912, some play was being produced at His Majesty's Theater in London called 'Drake.' Looking at these pictures the same as anybody else would look at them I could see that they were extraordinary, but they might fit anybody. They said they referred to me, and this they insinuated. About October, 1909, I went to the Coliseum in London in company with my cousins, and we walked, after the performance was over, across in James Park, where I left my cousins. Becoming tired of walking I went into the Shakespeare Hotel and I called for a small bottle of Guinnes's stout. Well, some prostitutes came in. I didn't know them, but they apparently knew me, or thought they knew me, and they were talking to themselves about me, and judging their conversation they belonged to or knew something about the theatrical business. I simply went on eating and drinking. Well, one of them detached herself from the other, and she was very nearly drunk. She swaggered and walked up to me and said, 'I will wine with you.' Well I happened to be of a rather bad temper at the time, and would not give her a drink; I did not answer her at all. So she went back and joined the others, and they started talking about me, and one of them said, 'He is a sod,' and the other one said,

'No use, he is a snark' (a police spy). Well, I came away, with the exception that I went over to the bartender and just looked at him. Much to my surprise the whole of London took this business up, and it reached such a stage that it became scandal. It would not have been safe for me to walk about with my mother, who was an invalid, and so I thought the best thing to do was to leave the country. I then came back to Canada in May, 1910. I went to Hamilton, Ontario, Canada, and much to my disgust I found that some one had got there first, and they were carrying on the same talk and insinuations, and although I eventually obtained employment in the city hospital I was compelled to leave, because the situation became unbearable. I, of course, as an assistant nurse had to give enemas, and to give enemas to people who are not quite sure whether you are a c— s— or a sod is very embarrassing. I went to the chief of police of Ontario and gave the names of the chief of police in London and other officials, so that he was sure that I was speaking the truth. I left there and went to work for a man named Ed. Smith sprinkling trees, and while, of course, I was working in the field with a gang of other men, still I occupied the same position as Jonah, who is mentioned in the Bible. I was a nuisance to the foreman, and so on a put-up job he discharged me. He kept on complaining about my work, and I worked as hard as I possibly could. So he managed to discharge me, and I went back to Hamilton, Ontario, and secured employment in the freight sheds. They kept on discussing whether I was or whether I wasn't a c— s— or a bastard. It was certainly very unpleasant. One day, after I had worked as hard as I could possibly work on that particular day, they discharged me. Disgusted I left Hamilton and went to Saskatchewan. While there I worked with a farmer, and he gave me a square deal. After I left Gainsboro, Saskatchewan, I went to Toronto, Canada, and I stopped there for about a week, with a little money I had earned, and then joined the Canadian Army. The same thing started there, but I may mention that, before I joined the Canadian Army, I wrote to a dean of the Episcopalian Church, of which I belonged, and I told him the whole history of my life, including those blackmail campaigns, and that I thought by joining the army the whole thing would be over. I was brought to the notice of His Majesty King George of England. I attended his father's, King Edward's, funeral. I was standing in the crowd at Marble Arch and as the coffin passed I looked into the coffin and looked at King George and he looked at me and he nodded to his father's coffin. I didn't know what he meant so I looked to the front. So I was aware at the way this blackmail business spread that some very strong influence was at work. I was aware that the King knew about it, but I could not do anything or make any accusations against anybody, as I did not know what part he played in it. There

were a lot of people discussing that I might be of royal blood." Why do you think they thought this? "I bore a remarkable resemblance, when a boy about 13, to the then Prince Edward of Wales, with the exception of the nose, which is entirely different, but anyone looking at us casually might think we were related in some way. My father's family was an aristocratic Irish family. It seemed to me that the King was making uncomplimentary remarks about his dead father in the coffin, inasmuch to say that his father in the coffin was the same kind of man as what people were accusing me of being." Has King George paid any attention to you in any way at all since? "No; except that people note different instances in my life. One of them was where the people were going to the garden party at Buckingham Palace all dressed in black and white, which colors I have always worn in my life. There was one big picture of a garden party where Queen Mary was being masked in front of a tribunal consisting of 10,000 guests. His Majesty, King George of England, was walking up behind with a frown on his face, but I could not help thinking at the time that it looked as if the Queen was under arrest and that King George was the policeman and that the other people were her judges, and that she was being marched before them for sentence. King George was dressed in the picture very similarly to the clothes that I am compelled to wear in my poverty. These pictures occurred weekly in the English illustrated papers.

"On my return from Gainesboro, Saskatchewan, I wrote to the dean of a church and told him the whole history of my life, including the blackmail business. I then enlisted, hoping it was all over, but after I enlisted in the army I found it was as bad as ever. I found that the noncommissioned officers were going about telling the men 'he thinks you think he is a sod; he thinks you think he is a bastard,' and I saw that the officers were telling the noncommissioned officers to do this. This simply meant that one clique was working against the other and that I was between the two cliques—one clique that was favorably inclined toward me and one that was not. Those who were favorably inclined were those who had more intelligence than the others. I was sent with a party of other men to Halifax, Nova Scotia, and finding that this calumny was not dying out I thought the best thing I could do was to be transferred to another regiment, where they would stop this stupid behavior. After my transfer the same thing started all over again, and this time I was becoming nearly frantic. This regiment was composed mostly of old soldiers, and they were exasperated and enraged at being told about these things. So after about a year, becoming thoroughly exasperated, I went down to the army chaplain and I told him by word of mouth that this kind of thing was no good. I said that this method of spreading the calumny was simply enraging the men and that they

did not understand, and I expected him to straighten it out. Well, things got a little better, and after that the people of Halifax claimed to have received my thoughts by means of telepathy. I discovered in October, 1912, that people were actually aware of what I was thinking and had been thinking for a long time. Then I simply went and consulted Chambers's Encyclopedia and found out what telepathy was, and that accounted for these people being able to tell my thoughts. Then I took up psychology, and found that it meant a sort of affinity of soul. I then read something about theosophy. I remembered that this was a school of thought in India, the president of which is Mrs. Vesant. King Edward and King George and Queen Mary have all paid visits to this school of thought, which is held in India. They undoubtedly believe in it. Discovering this and remembering that by means of telepathy people were able to communicate one with another, and which they did, and finding what psychology was and what theosophy meant, something to do with the spiritual world, I came to the conclusion that I was up against it, and the best thing I could do was to leave Canada. So in the meantime they very conveniently discharged me from the army, certifying that I was suffering from neurasthenia. That was a lie, in my opinion, for I was not suffering from anything. They took me to the hospital and proved to all the patients that such a thing as telepathy existed by permitting these people to tap my thoughts. I could see at a glance that they were aware of what I was thinking. Then I came to the United States, when I enlisted on February 14, 1913. About two days after I enlisted, after being aggravated on parade by the conduct of the sergeant, I was taken over to the hospital and subjected to a cross-examination by the doctor and locked up in a cell, and Capt. Brown insinuated that the sergeant had been abusing me. Although he had been abusing me I could not prove it, and I did not make any complaints against him. He said, 'Were the men going to hang you?' I said, 'No, sir; I never heard anything about it.' So after about a week they let me out of this cell and I went back to my duty.

"I was without money, because by some very clever maneuvering they kept me without money. I went to New Rochelle and called on Mr. Reynolds and explained to him that my trunk was in Boston and asked him to aid me to get it. He said he could not do that, but would give me a letter of introduction to Mr. Schlosser, of the Y. M. C. A. The next day I was arrested by the civil police, on March 12, and after they cross-examined me I was then rearrested by two noncommissioned officers of the Army, and they were conversing with the police, and it looked as if it were a put-up job. I was then taken back to Fort Slocum. The next day I was taken before Capt. Palmer and he asked me a lot of silly questions and asked me what I meant

by begging in New Rochelle. They started a process of persecution by irritating measures in the hospital, locking me in a cell and refusing investigation and refusing trial by court-martial. So, to make a long story short, I wrote out accusations. (Note: His understanding of the regulations and military law is perfect and correct in every way.) After they told me by word of mouth that I was going to Fort Myer they brought me down under the guard of a sergeant and an ambulance met the train at Union Station. They brought me out here, and at first when I saw soldiers walking around I thought I was at some military place until I got inside. The King of England is at the root of all this blackmail and calumny." Do you think there is any reason? "Yes; the reason is to ascertain whether the world at large believes that I am his (King George's) or his father's (King George's father's) bastard. The mere fact that King George is 45 and that I am 38 may be forgotten by the people. It was noticed that when Queen Mary went to India that all of the ambassadors and members of the diplomatic corps kissed her hand at the railway station. This was never done before, and it was commented on by the newspapers. It has been done before in the court. If, for instance, you promised to do a thing and she was perfectly certain that you were going to do what she wanted you to do she would offer her hand and you would kiss it. Then I argued that all these people having agreed to establish this telepathic communication between me and everybody else, they had been able to do so through various secret societies and religious bodies that they have influence over, such as armies and navies. When he ascended the throne a newspaper published by anarchists said that King George had been married before. This story of King George's previous marriage was not proved, but has always been believed by the English people. He took this matter into the courts and he won the case and the anarchist was sentenced to two years' imprisonment. I suppose that having fought and won out in the court he wanted to find out whether people believed that I was a bastard of the royal house." Do you receive communications from the King? "I have watched people in the hospital get communications from the King, and judging by their manner toward me I know they received communications from him." Do you think there is anybody else at the root of this matter? "The Queen, judging by the pictures. In one picture in which she visited some mines in the north of England she is shown in the picture holding a little girl by the hand and this little girl bears a remarkable resemblance to Maj. X's daughter, whom I knew when she was a little child, and the Queen is doing pantomine business with her face, for which there is no necessity, for the words beneath the picture said, 'The Queen and her little subject.' In Halifax, Nova Scotia, they did a very vulgar thing. By means of moving-picture shows at the theater they went through all the trouble I had in Cuba with Maj. X. and

Mrs. X. by means of a play and resembling very closely the original characters. Now I wouldn't for a moment have spoken about it had it not been for the fact that the audience were audibly mentioning the names of the characters, as 'This is Mrs. X.'" What does this little child mean to you? "I like the little child as any man of my age. She was the cutest little girl I had ever seen. She is a very, very cute little American girl. This little girl was absolutely devoid of 'side.' I was very fond of her from the fact that she appeared to be neglected by her mother. I could not do anything and make any comment, but she was always racing about in the open without the proper clothes. My father went through his money in the Army, and fortunately for himself he married my mother, who had a business education, and she was able to live with him and pay the rent on the house. In order that we might live in a good quarter of the city my mother took a house in a decent section of the city and let the upper part of the house, so that the amount she got from the upper part of the house kept the lower part furnished and the children in good clothes. When my father had no more money he was allowed $10 a week from his aunt in Ireland. This money was left by a sister of my father's, who died in a convent, and it was left for that purpose. Now it would have been against the wishes of my aunt in Ireland for my father to engage in any business because of his former position. My mother took the house under the name of Mrs. Richards, so that the aunt in Ireland would not know. My father was living apart at the time, and when he visited he came into the house quietly and left so that anyone might naturally think that we were bastards and he was simply visiting his mistress. My father was such an easy-going character. One day while coming back from Sunday school a little boy said, 'If you want to know anything, your mother is not your mother at all.' I remember this, because I have been looking back over my childhood life and linked them together. In my youth I was senselessly democratic, but I changed as soon as I found that the people who advocated socialism were themselves the biggest snobs on earth. Since that time I have been up against all sorts and conditions of men and have seen gentlemen in all sorts of unexpected places and I now have a feeling of sympathy for all those who are up against it. I left school at 14, but have been a great reader. I am greatly indebted to the Review of Reviews for the greater part of my knowledge."

Chapter IV.

GENERAL PARESIS.

This disease, excluding dementia precox, is the most common mental disease requiring asylum treatment with which we have to deal in the military service.

Admissions to the Government Hospital for the Insane since June 1, 1908, show the following numbers coming directly from the troops:

1908–9, 1 officer, 2 noncommissioned officers, and 3 privates, all white.

1909–10, 3 noncommissioned officers, 6 privates, and 1 civilian employee, all white, and 1 colored private.

1910–11, 1 officer, 3 noncommissioned officers, and 5 privates, all white, and 2 privates from the negro troops.

1911–12, 1 officer, 4 noncommissioned officers, 6 privates, all white, and 1 private from a colored regiment.

June 1, 1912–June 1, 1913, 1 officer, 3 noncommissioned officers, and 11 privates, all white, and 1 noncommissioned officer, and 3 privates from the colored troops, a total of 19 cases.

One of these, a white private, may yet prove to be cerebral lues. Taking the 18 in whom we are positive paresis exists, there is a percentage of total admissions for the year of persons becoming insane with troops and requiring asylum care of 20 + per cent. On this basis 1 in every 5 persons becoming insane with troops during the year would be expected to be a paretic, but such a conclusion would be erroneous. As said above, a not small number of insane were returned to their homes or discharged as not needing restraint during the year. It is likely that none of these were paretics; hence if we added this number to the admissions to the Government Hospital for the Insane and then took the percentage it would doubtless be lowered appreciably. No doubt, however, paresis would still rank second in frequency of mental diseases requiring asylum treatment.

W. Spielmeyer (9) says that this disease above all other mental disorders is characterized by the fact that it shows a sharply defined symptomatology, cause, course, and pathology, and is a well-defined disease entity. On the basis of the pathological findings it is possible to differentiate it from other conditions with similar symptoms of paralysis.

It is characterized by the combination of a progressive mental deterioration, with physical symptoms indicating organic disease of

the nervous system, which is also progressive in character. These physical symptoms found intermingled with signs of mental disorder of rather varying nature (see case histories below) made it possible originally to separate this disease from other forms of psychic deterioration. (Bayle 1822, Calmeil 1826, and Falret 1853.) Cases formerly classed under some heading such as "Mania with paralysis" became the classical form of progressive paralysis.

The neurological signs in paresis present a far more uniform picture than do the mental changes, which latter may vary from a simple deterioration without delusions or hallucinations to the wildest excitement, great depression, or immoderate grandiose delusions.

Hallucinations are comparatively infrequent. The symptomatology, both mental and physical, of paresis is so well described in various textbooks of the present that I omit any general description of the disease. References 8, 9, 10 are good on this subject. Many others in many languages may be found.

Onset: For practical purposes it is sufficient to say that paresis is, in the preponderating number of cases, gradual in onset. A point to be remembered in military practice is that a convulsion may be the first outward symptom of the disease. In one case admitted during the past year isolated convulsive seizures had been noted one and one-half years before mental changes became sufficiently pronounced to attract attention. The subsequent course of his disease indicates that the paretic process was then in existence. Cases of adults, especially past 30, who have isolated convulsive seizures, should be carefully examined for evidences of organic brain disease, especially paresis and cerebral lues. If there is a positive history of lues or the Wasserman test is not negative, this examination should include examination of the spinal fluid obtained by lumbar puncture to determine whether there is an increase of protein content, whether there is an increased number of cells per cu. mm., and whether the Wassermann test is positive or negative.

In recent months much has been written as to the significance of a positive double plus Wassermann reaction in the spinal fluid. The question is, perhaps, not absolutely settled; but when such a result is obtained with the spinal fluid, using very small amounts of same in the technique of the test, it as a rule indicates that the patient is suffering from general paresis. Such a positive result when larger quantities of spinal fluid are used does not mean that paresis exists. From my reading of the literature, I conclude that at the present writing it may be said that in many forms of cerebrospinal lues a double positive Wassermann reaction will be found if relatively large quantities of cerebrospinal fluid have been used in making the test, but that only in general paresis do we find a consistently double plus reaction with the spinal fluid when the minimal

amount of fluid is used. The following from a recent German work (13) may be considered to represent the results of good work, and seems to me to be worthy of repute.

Summarized: A double plus Wassermann with blood serum in suspected paresis means, of course, only that the patient has had lues. On the other hand, a consistently negative Wassermann with the blood serum in a person uninfluenced by treatment is very good evidence that the case is not one of paresis, the result being positive in practically 100 per cent of paretics. Rarely, very rarely, it might be negative or uncertain. We have yet to see a case, though they are reported.

The cerebrospinal fluid.—The normal cerebrospinal fluid has only 5 or 6 cells or less per cu. mm., counted by the Fuchs-Rosenthal method (between 6 and 10 may be considered doubtful). Examinations of the normal fluid do not show an increase of protein content.

The Wassermann reaction with the normal spinal fluid using the original method up to 0.2 c. c. is negative. With higher amounts, from 0.3 to 1 c. c., it is also negative.

Pathological fluids.—These show an increase of pressure (not always). Examinations show an increased protein content and an increased cell content. These three signs, in combination or individually, show that an organic (inflammatory?) disease of the central nervous system exists, but do not reveal its nature, whether specific or not specific. We differentiate the specific from the nonspecific by means of the Wassermann test. If this reaction is double plus, using the original method of 0.2 cubic centimeter of fluid, it is highly probable that the case is one of paresis or tabo-paresis; much more rarely such result may be gotten in patients with cerebrospinal lues or pure tabes.

Typical results.—

I. Paresis or tabo-paresis.
   (1) Wassermann reaction in blood serum positive (+ +) in almost 100 per cent. Pressure of cerebrospinal fluid frequently increased (but by no means always).
   (2) Protein content of spinal fluid increased (95 to 100 per cent of cases).
   (3) Increased number of cells per cubic millimeter.
   (4) Wassermann in cerebrospinal fluid.
      (*a*) In about 75 per cent of cases double plus, using 0.2 cubic centimeter of fluid.
      (*b*) In 100 per cent double plus, using from 0.3 to 1.0 cubic centimeters of fluid.

(In our experience at the Government Hospital for Insane the Wassermann has been double plus with the spinal fluid in 99 per cent of cases using not more than 0.4 cubic centimeters of fluid.)

II. Tabes (pure).
   (1) Wassermann reaction double plus in blood serum in 60 to 70 per cent. Pressure of cerebrospinal fluid may be increased.

I. Tabes (pure)—Continued.
(2) Increase of protein content of cerebrospinal fluid in from 90 to 95 per cent of cases.
(3) Pleocytosis in about 90 per cent of cases.
(4) Wassermann with cerebrospinal fluid.
(*a*) Using 0.2 cubic centimeter in the technique double plus in from 5 to 10 per cent of cases.
(*b*) Using higher amounts (as above) positive in almost 100 per cent.

III. Lues cerebrospinalis.
(1) Wassermann reaction with blood serum double plus in about 80 to 90 per cent. Pressure of cerebrospinal fluid may be increased.
(2) Protein content of cerebrospinal fluid increased (only in exceptional instances is it not).
(3) Pleocytosis almost always (often very large numbers).
(4) Wassermann in fluid.
(*a*) Using 0.2 cubic centimeter double plus in about 10 per cent of cases.
(*b*) Using higher amounts (as above) almost always double plus.

The above given notes are from Nonne's reports from Hamburg, and the views on the same subject in vogue at the Government Hospital for the Insane correspond quite closely to them. We have carefully compared the clinical features of cases with the serological findings here for nearly two years and feel that medical officers will make no mistake in looking upon the above as authoritative, particularly as to paresis. It is of course necessary to remember that no rule fits every case.

We may be pardoned if we suggest that occasional mistakes, sometimes perhaps serious, will be avoided if in examining suspected cases a little more care is exercised in examining the condition of pupils, the tendon reflexes, the station and gait, the speech and the general neurological condition. These always give valuable information in paresis or other luetic brain or cord condition. We recall a history received from one medical officer, the report of the mental condition being so good as to elicit the praise of Dr. W. A. White when it was read at our staff meeting. Unfortunately this officer had overlooked the neurological examination, and for that reason alone undoubtedly, had arrived at false conclusions. Basing an opinion on the mental state alone, his conclusions were not unwarranted. Never overlook any part of the examination, the part overlooked may be most important of all, as in this case.

If the history of syphilis is conclusive, or there are positive neurological signs of brain disease, such as are more or less commonly due to lues, the examination of the spinal fluid, as above indicated, should be made even when the Wassermann with the blood serum is negative. The above facts may not be unknown or new, but will bear renewed emphasis on account of their importance.

Course: This may be said to be progressively downward. Our experience here indicates that few, if any, cases survive more than five

years from the onset of the disease. It is of itself fatal. Cases living longer are reported, and no doubt exist, but they may be looked upon as exceptions. Death very often comes much sooner. According to good authority, the remissions which occur in some cases are temporary in all and seldom are of longer duration than one year.

In rare cases they may be longer. The general consensus of opinion seems to be that no cases of true paresis recover, though certain observers (quoted by Spielmeyer) (9) report recoveries in 4 in 1,000 cases. Nowadays the correctness of their diagnosis is generally questioned.

Age at onset: Is by far most common between 25 and 45, but no age can be considered exempt. Ages of patients admitted from the active list of the United States Army during the past year were as follows: Twenty-seven years, 2 cases; 29, 3 cases; 30, 31, 32, 1 case each; 33, 2 cases; 35, 1 case; 38, 2 cases; 40, 43, 44, 47, 48, 1 case each. Total, 18 cases. Juvenile paresis must be remembered. A case is admitted here not infrequently; not from the service, however.

Etiology: The dictum, "no syphillis, no paresis," seems to-day to be gaining almost universal recognition as being proven. Much has been written on this subject for many years, but since the general use of the Wassermann test more accurate information can be gained. In every case but one [1] from the Army during the past year, which was paresis from a clinical standpoint, this test has been complete positive ++ with the blood serum, and in nearly all complete positive ++ with the cerebrospinal fluid. In the latter case it was only once negative, but once partial.

Spielmeyer (9) had about 99 per cent positive Wassermann reactions in his cases. In quite or all of the cases studied by me no very reliable data could be obtained as to when the patient acquired syphilis. Many times they denied all knowledge of it. Huberg (quoted in 9) found that 15 years after a year in which an unusually large number of infections had occurred an unusually large number of paretics developed.

"An interval of 5 to 25 years usually elapses between infection and onset of paresis" (11).

What, if anything, must be added to an antecedent syphilis for the patient to develop paresis is to-day unknown. Matthes gives figures which he believes indicate that not more than 1 or 2 per cent of persons infected develop paresis. These figures are probably too high. It seems impossible to determine what per cent of soldiers acquiring syphilis afterwards develop paresis though presumably it should not vary from that of the general population so affected unless it be during time of war or unusually strenuous or fatiguing service. In such event it will no doubt be greater than in time of peace.

[1] In this case it was single plus.

In the article cited above (9) the author states that three groups of factors require consideration as possible accessory or contributing causes of paresis. In this many others agree with him.

1. The individual make-up of the patient.

2. The special character of the infection and the treatment received.

3. Accidental injurious influences operative on the economy.

It may be stated briefly that these three propositions have been discussed freely and oftentimes at great length by many, but without, so far as I am aware, arriving at any very definite conclusions.

Ziehen's view that an injury may lower the resistance of the brain and the virus then attack it has been rather widely quoted. Many mention injuries to the head as a possible exciting cause. Emotional stress, mental exhaustion, great excesses, particluarly in alcohol and venery, have been mentioned by good authorities as being predisposing causes in syphilized individuals.

Noguchi and Moore have recently (12) reported finding the organism of syphilis in the brain of paretics in 12 out of 70 specimens examined. They believe the brains to be from cases of undoubted paresis. This work is very recent and judgment on it must, of course, be suspended, but even if it be found that the treponema is present in all paretic brains it seems to us that the difficulty is only once removed and that we will have as many vexing problems to face as ever in an attempt to understand why paresis, an undoubted disease entity, follows luetic-infection in certain instances and not in others. We will still be confronted by the fact that the disease is fatal, does not respond to the usual treatment for lues, and many others equally perplexing. Many interesting theories will no doubt be propounded, that a special form of spirocheta is concerned; that it undergoes a peculiar life cycle or what not, and maybe we will be as far as ever from the solution of the problem. Perhaps they have found the path which will lead to light on these obscure points and possibly enable treatment to be devised. We hope so.

A few isolated authors still maintain that true paresis may at times arise in persons in whom by no means can antecedent syphilis be established and in whom it is really absent. This seems very improbable. We certainly have seen nothing to indicate that such is the case in the service. Certain forms of pseudo-paresis occur, especially in chronic alcoholics, but they can readily be differentiated by their course and by serological methods. They, in nearly all cases, rapidly improve when drink is withheld.

Arterio-sclerotic dementias may be pseudo-paretic in type, but should be easily differentiated by serological methods. The recently devised treatment of Swift and Ellis (14) is still in the experimental

stage; while ingenious and a happy thought it has always seemed to us very unlikely to succeed in curing paresis.

G. C. D. White male; Sergt. C. A. C. Thirty years of age. Married. Simple dementing type of paresis.

Admitted to Government Hospital for the Insane, January 15, 1913. Birth and development, normal. Heredity, negative.

On admission gave a fairly full personal history for the time prior to onset of his disease. Memory for recent past not so good. Had grammer-school eduction; continuously in service since 1901. Non-commissioned officer with excellent character greater portion of this time. Married in 1906; has two children. Denies all knowledge of venereal disease. Admits intercourse with prostitutes prior to marriage. Never drunk. No clinical signs of lues, past or present.

Present illness: Regarding its onset. He says he is not ill in any way, mentally or physically. All he can say is that once the company commander sent for his wife and asked her some questions as to his behavior at home. Denies all knowledge of any actions on his part which might lead to the belief that he was insane.

History from his post shows that about June, 1912, officers and comrades noted a change, in that he performed his duties improperly and did foolish things. In January, 1913, at the post he was slovenly in manner and dress, behavior toward superiors was unsoldierly and peculiar; when addressed stared vacantly or acted in a foolish and childish manner. Is stated to have one child who has had infantile paralysis. Has always taken excellent care of his family and borne the best reputation.

Mental examination at Government Hospital for the Insane, January 20, 1913, by writer.

Orientation: Place? "A place for the insane." Name of hospital? "Cape Elizabeth." Can't remember the name of sergeant who brought him here. Gives date correctly, but is not exactly clear as to the different people about him. Knows how and when he came here. At times does not answer question until a minute or more has elapsed.

Emotional status: Sad or happy? "I feel all right. Of course I would rather be home." Have you any worries? "No." Is there anything on your mind? "No, sir." Sleeps well and has no dreams.

Insight: Are you sick? "No, sir; I feel all right." Is your mind all right? "Yes, sir." Your thinking power? "Yes, sir." Are you crazy or insane? "No, sir." Have you ever been? "No, sir." No subjective feeling of illness or worry.

Test phrases, Methodist Episcopal, perturbation, statistical, etc., not slurred on careful repetition, but when speaking them rapidly there is a more or less characteristic slurring, especially of Methodist

Episcopal. My experience indicates that this is the most difficult one of the usual test words for these patients.

Hallucinations of any sense do not exist.

Delusions of any nature do not exist.

In attempting to form sentences containing the words "hunter, dog, and gun," he could only repeat the words. A careful explanation of what was desired was given, but he was unable to understand it.

Difference between horse and ox: "A horse is one kind of an animal, the ox is another kind."

Lie and mistake: "A lie is when you tell a falsehood; a mistake is when a man makes a mistake." Ice and water: "One is frozen; the other isn't." These may be considered very poor responses.

Calculations: $6\times6=36$; $10\times12=120$. Gave these only with difficulty. Same result with other simple problems. A simple problem in addition and subtraction given distinctly, but he failed to comprehend it. After a second repetition he gave the correct answer.

He could repeat numbers of 6 digits forward correctly if absolutely no distracting influence was present; if it were he failed. It was not easy for him to grasp the meaning of simple commands like, "Repeat what I say to you." He could name the days of the week forward and backward with little difficulty. Easily named the months forward, but had to make two efforts before giving them backward correctly. His response then was very much slower than is that of normal persons. Repeated alphabet forward; utterly unable to do so backward; seemingly unable to bring into play the mental processes required. He tried hard enough.

Was unable to name and give date and significance of the common holidays correctly; mixed one with the other, both as to dates and meanings. After 12 years' service he gave July 4 as a day of mourning, meaning, of course, Memorial Day. An address given was incorrectly recalled after three minutes. He slyly peeped at what I had written on a notebook, and even with this help gave it incorrectly.

Asked what he had for breakfast, he recited the menu for dinner. On his attention being called to his error, he said, "You got me there; I can't remember." Gave a very fragmentary reproduction of a short and simple story read to him, much less complete than is given by normal persons.

Simple questions in history and geography answered correctly. Not familiar with current events as given in the newspapers; hasn't been interested to any great extent.

Physical and neurological tests January 20, 1913, by writer: Well-developed, well-nourished white man; medium height; weight in

proportion. Tongue normal. No tremors in any part of body. No facial paresis; face rather set and expressionless. Very slight swaying with eyes closed. No gait disturbance. No incoordination. Iris brown; pupils show no reaction to consensual light. A very slight reaction to direct light; react normally to distance and on convergence.

No reaction on pinching the neck (sympathetic irritation). Pupils are normal and equal in size; regular in outline. The tendon reflexes can not be elicited in upper extremities. No scars on penis. Sensation seemed normal.

All superficial reflexes present.

Knee jerks slightly exaggerated. Examination otherwise entirely negative. Wassermann test double plus with both blood serum and cerebrospinal fluid. Protein content of latter increased. Cell count showed 20 per cubic millimeter. The urine was negative.

June 20, 1913. He has remained free from delusions and hallucinations, his speech has become thicker, he is more unsteady on his feet, childish in his manner, but believes that he is improving. Works daily at cleaning floors, etc., is always pleasant and agreeable, seemingly absolutely happy. Disease is steadily progressing. Died less than one year after admission.

J. A. D. Private, Twenty-sixth Infantry. Thirty-two years of age. Admitted November 3, 1912. Married.

Can tell little of his antecedents.

Personal history given to me by patient November 8, 1912.

Born in Canada 32 years ago. Brought to United States at three months and lived in Nebraska until 10 years of age. Says he went to school six years of that time. Says he then went to Wyoming, working on a ranch until he was 18 years old, enlisting in 1898 at Denver in the United States Volunteers. Was in Philippine Islands with regiment until 1901, then served three years in Eighteenth Infantry. Character excellent. Is unable to give a connected account of his service from this point. Record shows that at time of admission he had had $12\frac{9}{12}$ years of service.

Claims to have always received excellent character and never drank. Unable to name the stations at which he has served during the past six years. Recognized them when named. Says he was a sergeant about eight years; reduced "last time because I could not signal well enough."

Present illness: Are you sick? "No." Why were you sent here? "Maj. H. sent me here because I had a sunstroke at the maneuver camp last summer." Had a "fit" after being in camp about three days, and was running around with no clothing on, and was caught and sent to the hospital.

Patient blames this "sunstroke" for all of his trouble. Denies all venereal disease. Says he was married about three years ago. Claims no miscarriages and no children have resulted. Unable by closest questioning to learn more about onset. He can give no account of recent events at his post. Attention is easily gained but can not be held to any one line of thought. In his ordinary conversation speech difficulties are very apparent.

History from his post shows that in August, 1912, he was in camp, ran out of tent in middle of night, pulled it partially down, took off all his clothing, ran about in the woods all night, and in morning ran about a village naked, refusing to put on his clothing unless an officer shook hands with him. Patient indulged in alcoholics occasionally, getting drunk occasionally; always looked upon as "simple" by his friends, and as years went by became "a little queer."

Mental examination by me at Government Hospital for Insane, November 8, 1912.

Orientation: Where are you? "Washington, D. C." Are you in a hospital? "I don't know." What is the date? "October 8, 1912." (November 8, correct.) How long have you been here? "Three days" (incorrect). When did you come? "First of October" (incorrect). Did you want to come? "Yes." Why? "Major sent me." He says that since coming here (five days ago) he has not heard the names of anyone connected with the hospital.

Emotional status: Are you sad or happy? "I feel good." Why? "I am in good health." Why, then, are you in hospital? "I was sent; when I got in they fed me good and I gained my health."

Insight: Are you sick? "No, sir." Have you been sick? "I was at Fort Wayne." What was the trouble? "I was sunstruck in the camp." How is your mind? "All right." Are you insane? "No, sir." Have you ever been? "No, sir." Are you sure of that? "Yes, sir."

He has no hallucinations and no delusions. Why did I ask you these questions? "To find out of I am right." He readily forms sentences using the words given him in them. Differentiates rather poorly between dwarf and child, water and ice, but fairly well between horse and ox. Gave a short but fairly accurate résumé of a story repeated to him. General memory for remote events is impaired. Also his memory for recent events. Simple questions in school branches he answered correctly in about 60 per cent of those given. Repeated the week days forward and backward correctly. Could not give the months either forward or backward.

Physical and neurological: Good-looking man, 74 inches tall, weight 200 pounds. Muscular strength good. Slight Romberg

symptom. Moderate muscular incoordination. Pupils round and regular in outline; left slightly larger than right, very slight reaction only in both to direct light. No reaction to sympathetic irritation. Accommodation normal. Tendo-achiles reflex much exaggerated, bilateral and equal. Knee jerks much exaggerated, might be called mildly spastic. Deep reflexes in upper extremities are slightly exaggerated. There is a very marked speech defect evident when he attempts to pronounce the test phrases.

Urine test negative. Wassermann with blood serum on November 13, 1912, complete positive double-plus. Spinal fluid clear, protein content increased, cell content per cubic millimeter 120. Wassermann reaction complete positive double-plus.

Since November, 1912, little change has occurred; he remains approximately oriented, quiet, and agreeable, though easily excited. Habitual attitude is reading aloud in a monotonous tone oblivious of the other patients. Helps willingly with ward work. Disease is slowly progressing. No delusions or hallucinations have been present. Simple dementing type of paresis.

White (8) says that the fundamental mental symptoms of paresis are those of dementia, a gradual, progressive, and more or less uniform failure of the mental powers. The two just detailed represent this in a pure form; they are the "dementing" type of the disease. One, G. C. D., is dead and at no time did he show delusions or hallucinations; only the dementia. J. A. D. is much more demented than when admitted, but shows no delusions or hallucinations and no conduct disorder.

White adds that upon the basis of this dementia (which is present in every case) there may be added excitement or depression, delusions of a hypochondriacal or grandiose nature; there may be a true delirium. In fact, the mental picture in paresis is rather varied, but we find it, as a rule, to conform to four types—the "dementing," of which the above-given histories are typical, and which is the typical variety of the disease, the excited or expansive type with grandiose delusion, the agitated type, and the depressed type.

Examples of the others follow:

W. E. M. Private, Twenty-ninth Infantry. Excited, expansive type. Admitted May 5, 1913; 37 years old. Single.

Examination May 7, 1913.

Patient can give little information as to his antecedents, and none of value. Can not give a connected account of his past life. Speech defect is marked. Says he was born in Connecticut, March 26, 1876. Went to school until he was 15, but "it was a matter of form only." "I was doing a lot of thinking." Attention can not be held; he launches into a long story of his adventures with various girls, trying

to go into minutest detail; no connection can be made out between individual remarks, and no point to the story. He talked rapidly and incessantly; is constantly moving in his chair. Never married. Has been practically continuous in service since 1898. Never cared to be a noncommissioned officer until his last enlistment. Drinks, but never gets drunk. Says he can eat large amounts of opium and cocaine and experience no effect.

History states (May, 1913) that father was alcoholic, and patient has used same since reaching manhood. Always more or less eccentric; of a "nervous" make up. Eccentricities became more and more marked until he became unreliable, impudent to his superiors, and incompetent. He is now much exalted—has a sense of great well-being and delusions of grandeur. Says he resents confinement, at the same time is happy; is making thousands of dollars; big men will intercede for him; etc. He will have big lawyers bring suit against the Government.

Mental examination May 7, 1913. Orientation: Doesn't know name of hospital; "I haven't taken the trouble to find out." City near? "Washington, D. C." Gives date as June 15; quite evident he is conscious of the fact that he does not know the date, as he tries to turn the subject, saying, "Ask me something hard." Poorly oriented for person.

Emotional status: "I have never had an unhappy day in my life." Says he has no brain, simply a head; he has no room for brains. He became highly excited, euphoric, talking ceaselessly in a most disjointed way, blaspheming the Creator in a silly, senseless way. Content of speech shows marked "flight of ideas." He is distinctly manic at present.

Insight: He says he is not sick at all; "My head is perfectly all right and as light as a feather." Physically he is perfectly well, and can expand 42 inches. How is your mind? "I don't want no mind. If a man has a mind, he has something to worry over. I am positive I am not crazy; I am a first-class yeoman; I will make all of you first-class yeomen, too." Who are you? "I guess I am the lone star of the world; everybody on earth are my friends." Says "he has no enemies; is going to have even the word removed from the language and from the dictionary." Speaks of Gen. Barry, his division commander, as a close associate of his. The President is a friend, too; but he has never cared to see the President. How much money have you? "I can not tell you; I never bother my head about it; about 15 or 20 million, I guess. I have given away so much that I am not sure how much I have now." His money and property are in charge of the Secretary of War and Gen. Barry. Any prominent man who is named he at once says is a friend of his.

Have you any ships? He names all the principal seaports of the world, saying that he has ships in all of them—15 or 20 in each. He also owns powder works, pistol factories, lime works, cattle lands; in fact, anything which may be suggested to him he owns. Says he is running the universe, but does not own it. Would continue in the same strain all afternoon if allowed. Was asked to use the words pen, ink, and paper in a sentence. He assumed a bored air, and said that if it would do just as well he would get a stenographer to do them, as he himself did not care to be bothered by them.

Differentiation tests: Horse and ox; horse is a cut stallion; an ox is a cut bull. It is almost impossible to keep his attention; talks rapidly and disconnectedly.

Ice is a hard material caused by force; water is liquid and clear.

Calculations: $6\times6=36$; $22-5=$ the patient says, "Give me something about machine forgery; I know all about them things." Given another simple problem, he said in a scornful, half-pitying tone, "Lord, Lord, Lord," and assumes an air of perfect exasperation at the triviality of such problems. Does not give the solution. At this point he has an uncontrollable desire to talk about his own grand doings and the wonderful things he is. He intimates in no uncertain way that he has no more time to waste with me, though he does it rather politely. Condescends to listen when spoken to rather sharply. During the examination he sat in a careless lounging attitude, frequently placing his feet on my desk, assuming various other uncouth, sometimes rather silly attitudes. Talked almost all the time in a disjointed way, speech not coherent and connected.

Physical and neurological showed a few anatomical stigmata. Denied lues, admitted chancroid. Slight degree of paresis of facial muscles. Moderate Romberg sign. Muscular strength and tone good; well nourished, hyperactive.

Pupils are equal, round, and regular. There is practically no reaction to direct or consensual light or to sympathetic irritation. Accommodation and eye movements normal. Knee jerks gone. Tendo-achilles reflex gone. Test phrases poorly pronounced. Urine negative. Wasserman reaction: May 22, 1913, with blood serum, complete positive + +; June 6, 1913, with spinal fluid, complete positive + +. Cells per cubic millimeter in spinal fluid, 180; protein content increased, fluid clear.

June 30, 1912, he was in much the same state, active, talkative, but pleasant and agreeable, constantly getting wireless messages from various places. Sends various wireless messages to the whale that swallowed Jonah. Remains delusional and grandiose.

The following is a good example of the agitated type of the disease:

K. S. Private H. C.; five years' service; character, first enlistment, very good. Two S. C. M. in this enlistment; age 29 on admission to Government Hospital for the Insane, March 22, 1913. Has been a free user of beer, to excess at times. Symptoms first noted about April 2, 1912. From that date he showed increasing weak-mindedness, made expensive purchases beyond his means; gave (on paper) gifts of millions; asthenia increased; became very uncleanly and careless in habits and dress. Previous to that date he is reported to have been at times depressed, to have had crying spells and at times short periods of great excitement. At his post there was a "positive plus" Wassermann with blood serum, "reflexes absent" muscular incoordination. He had "delusions of grandeur." He became progressively more deteriorated. Wrote a foolish and incoherent letter to the Queen of Holland, attempted both suicide and homicide, but in rather foolish and ineffectual manner. Condition is stated to have developed with extreme rapidity.

When he reached this hospital he was very noisy and untidy in his habits and no coherent or connected statements could be obtained from him. Continually talked in a loud tone. Was disoriented in all spheres. At times he mimicked with great realism all the movements and expressions of a person being choked to death, at the same time begging piteously not to be killed.

He had to be secluded in his room at all times and required restraint to keep him in bed. He continued in this excited state, until his death on June 1, 1913. He showed the physical signs of organic brain disease common to general paresis.

The Wassermann test was complete positive double plus with both blood and spinal fluid; the latter showed an increased protein content and 30 cells per cubic millimeter.

DEPRESSED TYPE OF PARESIS.

This form is by no means as frequent as the other types. Periods of depression of short duration may of course be seen in any form, especially very early, when the picture may much resemble that of "neurasthenia."

Case A. L. B. Private Infantry; age 33 years; single; common-school education. Examination by writer May 15, 1913. He was found sitting in the ward in an attitude of dejection, perfectly motionless, his head in his hands as if bowed with grief. A sharp command was needed to get his attention. Gave his answers in a low, despairing tone and asked in a pleading voice for something to eat, saying that he had nothing for four years.

He was born in Arkansas in 1880 and enlisted in 1901. Unable to give much family history or any coherent account of his past life. Usually answered all questions by "I don't know." He bemoans his

fate, saying that while he likes all nice things he can never have any, because his parents take him from one hospital to another and he is always in hospital.

Summary: A. L. B. His history shows that March 4, 1913, he was liable to forget entirely that he was on guard and leave post and return to the guard tent, and he did not seem to think that he was doing anything wrong. Twice on guard he lost his belt. For a month before that he had not seemed in possession of all his senses. His mind seemed vacant and everyone with whom he came in contact thought him irresponsible. Lost his rifle on guard. On kitchen police he would peel one side of a potato and leave the other side unpeeled. Would go to get water and leave the bucket at the spigot and then wonder who had stolen his water, and other such silly actions. In El Paso his comrades were afraid of him on account of his peculiar actions. It is stated that he was never known to become intoxicated or get into trouble in his company or with his comrades. In the field hospital he was worried because he could not go to Fort Sam Houston and take command of his company; that they needed him. He would hide small pieces of paper or sticks in his bed sack. He was constantly worried because he was unable to keep his nails clean. When questioned about himself or family he would commence to cry. He took great pride in the appearance of his finger nails. Was sometimes very talkative.

Mental examination at Government Hospital for the Insane showed him to be disoriented, except that he knew he was in Washington; did not know the date nor month, nor did he know anyone about him. Was greatly worried because they always put him in some hospital. They promise to take him to a place where he can eat; they lock him up.

Emotional status: Said he was very sad, adding, "They ain't never come to see me, you know, none of my people." When asked if down-hearted, he begins to cry and says, "Yes, sir." Says, "They never give me any money." Who? "The cavalrymen. I don't receive any money," but he doesn't know why. He possesses no insight into his condition, broadly speaking. Did not think he was sick; that there may be something wrong with his mind. Realizes he was absent-minded, but that he had been that way all his life. Was worried because he could never sleep. Says, "I think all the time, but I never sleep." He, of course, does sleep. Is worried because he has no place to sleep. They turn him out every time; don't give him a decent bed. Also worried because the ward master mistreated him; never took him to a commanding officer. He does not know why he should have been sent to a hospital. He is not crazy. He pronounced the usual test phrases very poorly, indeed. It could not be determined definitely if he had any hallucinations; probably he

did not. He was worried because he wanted three sandwiches, but they would not let him have so much. The doctor promised him a special diet, he says, and he feels that everybody has got it in for him. Does not know why they do have. Says it has been a long time since he had anything to eat. He has no feeling of having sinned greatly, and his worry is largely due, he thinks, to the fact that somebody keeps putting him in hospitals all the time and won't let him eat. He can not tell the difference between horse and ox or lie and mistake. He can not do simple sums in arithmetic; can not repeat correctly days of the week. Can not remember a short story told him. Shows great difficulty in thinking, the retardation of thought resembling somewhat that in the depression of manic-depressive insanity. His knowledge of history and current events is poor. He is quite irritable at times; his facial expression indicates great anxiety and depression. He, however, sat quietly during the examination, motionless, in one position; is retarded in movement as well as speech. If he starts to do a thing and it is the least bit difficult, he will stop without trying to complete it. He answers questions slowly, in a very low tone, scarcely parting his lips. Very much depressed, indeed.

Physical examination showed a fairly well-nourished, fairly developed white man, height 5 feet 9 inches, weight about 138 pounds. Shows a moderate Romberg symptom. General tremor of the body when performing voluntary movements. Coated tongue. No suicidal ideas. Movements slow, poorly performed. Muscular strength good, muscular tone good. Iris between a brown and a gray. Right pupil slightly larger than the left. React quickly to direct and consensual light and to sympathetic and to accommodation. Superficial reflexes except plantar normal. Much exaggerated, more so on the left side. Patient removes his clothing with some difficulty and very slowly; fumbles buttons. There is a slight Babinski toe phenomenon on the left side. Knee jerk, left, is diminished, right about normal. Mild incoordination of movement. While attempting to put on shirt became bewildered and unable to continue. Held out his shirt to the doctor, saying, "You fix it for me." No sensory disturbances made out.

Wassermann reaction with the cerebrospinal fluid on June 19, 1913, was complete double plus. Fluid clear. Protein content increased. Cells per cubic millimeter 76. Wassermann also double plus with the blood serum.

During June he continued depressed. In July he was seclusive, untidy, exposed himself, entirely disoriented. September, progressively deteriorating. This deterioration has continued to progress since that time. He now has, February, 1914, very little mental life left and is much deteriorated physically.

The two cases below outlined, which have been previously reported by Bernard Glueck, of the staff here, in a paper, "Paresis in general practice," published in the Charlotte Medical Journal for June, 1911, are of decided interest.

The case of the officer shows how marked a change may come about in one in a very short time and also exemplifies the difficulty in arriving at a diagnosis early without the help of serological methods.

It seems pretty definitely established that officers (who have had syphilis) are much more apt to develop paresis during the strain attendant upon a state of war. This suggests some evident precautions. First, of course, the impressing upon the minds of the commissioned as well as the enlisted personnel the remote as well as the immediate dangers of luetic infection and the intensive treatment of same if acquired, and that any officer or soldier, for that matter, whose conditions suggests possible mental disease should, especially in war time, be at once placed on sick report to avoid possible disastrous consequences. It may seem superfluous to warn against allowing persons suspected of mental disease to return to duty except after most careful and competent examination, but we have records showing that soldiers were known to have given expression to delusional ideas and were continued on duty thereafter, eventually requiring to be sent to us here. Such return to duty was no doubt made by the medical officers concerned in all good faith and in the firm belief that the patient was no longer or had not been insane. But we venture to suggest as being wholly true that it is poor policy and dangerous to return to duty those who have shown any reasonably trustworthy signs of mental disorder. We are certain that the vast majority of mental diseases are chronic incurable conditions which more or less completely destroy the efficiency of the individual, and it seems wisest to separate the mentally afflicted from the service as soon as possible.

Perhaps it may be of interest also to relate here the instance of a soldier recommended by us for discharge while surgeon of a transport. He came one day complaining of some physical ailment which it was quite evident he did not have. Examination showed him to be utterly incapable mentally and he was placed on sick report. His company commander stated that he had been in the company for 15 months, had been utterly useless and had been sent to the surgeon once, but for some reason returned to duty. He had been once guarding a prisoner who was policing a roadway. When found this sentry was holding the horse awaiting the return of his prisoner who, needless to say, did not come, yet for some reason he was allowed to sail for the Philippine Islands, and we had to bring him back on our return voyage. Whose fault it was that a man thus utterly and evidently

mentally incompetent remained 15 months in service and was transported from the Atlantic coast to Manila and return we do not know, nor is it important to us here. But the fact that it actually occurred does suggest an important lesson to us in our effort to make the Medical Corps even more efficient than at present, and that is, there should be the closest cooperation between the company officers and the surgeons and the former should be encouraged to carefully scrutinize new recruits especially those with no previous service and to send those who are even doubtful from the mental side (as well as those who are doubtful from the physical) to the surgeon. When so received by the latter an exhaustive examination should be made and every means used to settle definitely the mental status of the individual. This should be done quietly not allowing the comrades of the soldier to know that his mentality is questioned, for should they learn it and he be returned as sound there would always be some to taunt him with it. Let the inquiry into the mental fitness be on a par with that of physical fitness, for certainly it is of as much importance.

Case: D. B. L.; male; 35 years of age; lieutenant in the United States Army. Admitted June 5, 1910. Had a primary lesion five years ago. The patient was always of a cyclothymic makeup; would be very bright and cheerful at times, while at other times he would be subject to morose spells, lasting from a few hours to a week or more, during which he would barely speak to his friends. He was well, up until May 27, 1910, when he began to become excitable and irritable, sent numerous telegrams to various officials, colored with grandiose ideas. He showed a very marked psychomotor activity, emotional exaltation, and a slight flight of ideas. He was admitted to this institution with a diagnosis of manic depressive insanity, manic attack. At the time of his admission he was in a highly maniacal state; was busy all the time with one thing or another, bedecked himself with vari-colored ribbons and fancy pins, dispatched numerous messages to persons of prominence in the country. These contained orders for the movements of ships and troops. He ordered a battalion of soldiers and full equipment to be stationed at the hospital, was very exalted emotionally, wore a constant smile, and was very courteous and polite to those about him. He was well oriented in all spheres and showed no physical or neurological disturbances suggestive of an organic brain disease. He was witty and jocund, and appreciated quite fully his surroundings. After a week or 10 days his excitement fully subsided, and to the casual observer he presented a normal appearance, was clean and neat in his habits, knew where he was and the nature of the place, talked coherently and rationally on all subjects. His insight was not perfect; he did, however, admit that he had passed through an excite-

ment, and added that he spoke of these various bizarre ideas just to play a joke on some of his friends. He continued to improve, and on August 17, 1910, was given parole of the city. This he did not abuse in any way, and came into no conflict with his environment. On September 28 he was allowed an extended visit to his home. At that time he made quite a normal impression, mentally, aside from not having perfect insight into his condition. Physically, the only sign present was a slight tremor of the tongue; eyes and reflexes unaffected.

The sudden onset of this case, the presence of marked psychomotor activity, the flight of ideas, the emotional exaltation, the absence of neurological disturbances, and the history of the patient having been subject to quite marked fluctuations of his affect-tone, would easily lead one to consider it a case of manic depressive insanity. The expansive delirium which was present, together with the bizarreness of his delusions, of course, made the case somewhat atypical. However, grandiose delusions are to be considered as a part of the manic phase of manic depressive insanity, and it is only the expert who is able to see the faint evidences of bizarreness, and the improbability of the delusional system which distinguishes the paretic. At the suggestion of Dr. White, an examination of the blood serum and spinal fluid was instituted soon after the patient's admission, and the findings definitely established a diagnosis of paresis. The blood serum was repeatedly double positive to the Wassermann reaction, while the spinal fluid showed a marked pleocytosis—196 cells per cubic millimeter, plasma cells, a positive Noguchi butyric acid reaction, and a positive Wassermann. Subsequent clinical history confirmed the diagnosis.

Case: P. R. D.; male; 12 years of age. Admitted April 6, 1909. Illegitimate child. Presumed father had syphilis. Mother died of paresis in September, 1909, autopsy confirming diagnosis. The patient was normal until 3 months old, when he developed a rash over his body, which a physician recognized as syphilis. He was treated for some time for this disease. When quite an infant he was sent to St. Anne's Orphan Asylum, and at the age of 7 was transferred to St. Joseph's Orphan Asylum. He was a good-looking child, bright, alert; kept up with the boys of his age in class, reaching the fifth grade; was attentive, active, fond of play, and in every way seemed like a normal child until about October, 1908. The mental change was so insidious as to be scarcely noticeable. He became absent-minded in his school work and play, slow, hesitating; seemed to have difficulty in grasping the questions and following the lessons. His answers become more and more incorrect; he began to make mistakes in repeating his prayers, which he has said twice daily for five years. Early in June, 1909, his voice became

high-pitched, he spoke more slowly, hesitated over words of more than two syllables, and his writing became slovenly and illegible. The mental deterioration was gradual, without excitement, depression, or delusional formation. He fabricated on a few occasions without provocation and pilfered various articles from the other boys—both traits foreign to his make-up. For a month before admission he was very dull and was frequently reported for being untidy in his habits. His face became inexpressive, facial muscles tremulous, and he had difficulty in thinking.

On admission to the Government Hospital for the Insane he showed a general loss of muscular strength, slight awkwardness in gait, both knee kicks were exaggerated, both tendo-achilles exaggerated, pupils both irregular in outline and slow to react to light and accommodation; sympathetic absent. Special senses slightly dulled; very coarse facial tremor; fine muscular tremors over whole body. Tongue showed coarse trombone phenomenon. Some incoordination of upper and lower extremities, especially in finer movements. Speech was stumbling, with hesitation and elision; writing showed irregularity in formation of letters, carelessness, and excessive pressure with the pen. Examination of the spinal fluid showed a pleocytosis of 68, with 1 per cent plasma cells. Mentally he was somewhat frightened on admission, his face was dull and expressionless, and he did not appreciate his surroundings or volunteer any information unless spoken to. He was partially disoriented, had no insight into his trouble, memory was defective for both recent and remote events. The case ran quite a typical course until the time of his death, December 20, 1909. Autopsy confirmed the diagnosis of paresis.

This case is of interest because cases of general paralysis in children are being more and more frequently recognized. At the present time there have been reported several hundred cases of juvenile paresis. The general practitioner should think of paresis in all cases of progressive mental impairment in children.

The case of paresis in a child of 12 emphasizes the fact of the occurrence of juvenile paresis, and while it is not so very common, should be borne in mind when obscure cases are being considered. I recently heard reported before the Society for Nervous and Mental Diseases, Washington, D. C., the case of a 9-year-old child who had been taken on several railway journeys and visited several cities before it was recognized that he was a victim of paresis. Anyone might meet such a case, and, bearing in mind the fact of the occurrence of juvenile paresis, should readily arrive at a diagnosis. New instances of juvenile paresis are being constantly reported. Several have been seen here during my service.

GEOGRAPHICAL DISTRIBUTION OF PARESIS AND TABES.

Kraepelin, in his Eight Edition, Volume II, writes as follows:

CONCERNING PARESIS.

In France, England, Italy, Netherlands, Austria, Denmark, Switzerland, West Russia, and the United States, its incidence is about the same as in Germany.

According to Rodriguez-Morini, in Spain about 5 or 6 per cent of men insane are paralytic, of women 0.8 per cent, Scotland 4 per cent, in Ireland 1 per cent, in Canada 1.65 per cent, in Chile 2.8 per cent; in Norway Vogt was unable in an asylum of 330 to find a single case. It is unknown in Iceland.

In Bosnia and Herzegovina lues is common enough but in natives only 0.65 per cent of paresis. In Croatia, which is near, 16.5 per cent were paretics, only 2.4 per cent of these came from Bosnia and Herzegovina. In the latter countries aneurism and arteriosclerosis seem rare, while hysteria and neurasthenia are very common. Paresis is rare in natives of Algiers; Rudin only found two certain cases.

Marie, however, saw 6 per cent among the Arabs in Cairo. Another observer reported it very rare among the Turks in Constantinople; Scheube has reported it as seemingly unknown in British East Africa, Uganda, Zanzibar, Camaroon, Togo, Samoa, the Marshal Islands, and in Nicaragua. It is rare in Asia Minor, British India, Siam, China, Korea, Abyssinia, Natal, the Gold Coast, Madeira, the Fiji Islands, and Haiti. It seems to be frequent in Cuba, Jamaica, British Guiana; Kraepelin himself could not find a certain case of paresis in the hospitals of Java, but he did see there the brain of a native Javenese who was paretic. Moreira found in Rio Janeiro 2.76 per cent of paresis. In Japan at the present time the disease seems to be as frequent as in civilized Europe.

In Europe and Algiers paresis is as frequent in Europeans as at home. In Constantinople the disease is very much more common in Armenians and especially in Greeks than in Turks. In Bosnia natives are rarely affected, foreigners not infrequently. In Cuba the negro has it less than the white. In Brazil, Indians do not seem to have it. We see Slavs, Romans, Germans, and Hungarians, frequently affected; Celts, Berbers, Turks, Abyssinians, Indians, negros, and Malays, etc., infrequently.

TABES.

R. T. Williamson, in a paper "Notes on the Geographical Distribution of Tabes Dorsalis," in the Review of Neurology and Psychiatry, Edinburg, No. 8, 1909, says that reliable statistics as to the frequency of tabes dorsalis in different countries are difficult to obtain. He has,

he says, in this paper quoted such statistics as seemed to him worthy of record:

Mortality from tubes dorsalis (figures for 1907 unless otherwise indicated).

Country or town.	Death rate per 100,000 living.	Country or town.	Death rate per 100,000 living.
England and Wales	1.7	United States—Continued.	
London	1.9	Registration cities	2.8
Manchester (average of 4 years)	1.2	Rural districts	2.6
Scotland (1906)	1.1	Cities of—	
Ireland	1.1	California	3.3
Malta and Gozo	0.9	Colorado	7.4
Paris (1906)	2.6	Maryland	3.1
Berlin (1906)	6.4	New Hampshire	4.5
Berlin (1905)	5.8	New York	2.7
Budapest (1906)	7.4	Rural New York	3.4
Budapest (1905)	5.1	Cities of—	
Madrid (1906)	0.36	Pennsylvania	3.1
Buenos Aires	0.97	Vermont	5.5
United States:		Rhode Island	3.9
Registration areas	2.7		

In Mexico (the Federal States and Vera Cruz) the last report (1903) indicated that the death rate was less than 1 per 100,000. In Budapest, when the statistics were restricted to the residents of that city, the mortality was still high, 6.4 per 100,000 living.

RARITY OF TABES IN CERTAIN COUNTRIES.

According to L. Glueck, who practiced in Bosnia and Herzegovina for 15 years, syphilis is exceedingly common in these countries. He saw it commonly enough in various regions of the body except the nervous system. He saw no case of tabes. Four medical colleagues had seen no tabes, but had seen other forms of nervous syphilis.

Kobler reports that among 3,000 patients in a hospital at Sarajevo there was no case of tabes.

These six medical men had not seen a case of tabes in Bosnia and Herzegovina. Naecke more recently reported from the same two countries that syphilis is common, of a severe form, and usually not treated; but tabes is exceptional, quite so. The author adds that it has been seen there.

Motschutskowsky reports that in many districts in Russia where syphilis is common tabes is not seen. Neftel states that syphilis is extremely common in Kirghiz and Central Asia, almost every man and woman being affected (?), but tabes is very rare. He saw no case in six months' practice at Kirghiz.

Holzenger states that though syphilis is common in Abyssinia tabes is rare, but adds that among 107 nervous cases he saw 6 of tabes, which figures indicate that the disease is as common there as in Manchester, England.

Ostrowkich says that syphilis is common in North Persia, but that among 7,000 out-patients no case of tabes was seen.

Numerous cases of tabes are now mentioned in Japanese literature.

Scherb states that in Algiers syphilis is common enough, but that tabes and paresis are very rare among the Arabs; yet the Jews in Algiers suffer from both tabes and paresis not infrequently.

The author thinks that there is no doubt, from the statements published by American neurologists, that tabes occurs in the negro, but that in them, especially in those of pure blood, it is much rarer than in the white races despite the frequency of lues among blacks.

Hecht has studied the question and concludes that "Aryan admixture is essential to the production of tabes in the negro."

According to Mott lues is common in negroes in Jamaica, but Henderson found tabes uncommon. It has been said that Jews have less tabes than Christians in Russia and other places; but the figures from Budapest in 1905 and 1906 show 16 Jews among 99 fatal cases. At this date 25.5 per cent of the inhabitants were Jews.

Clemow remarks in his work on the "Geography of disease" that almost the only regions where syphilis has not been seen are Greenland and in certain remote tribes in various continents having little communication with the outside world. It is said to be rare indeed in Iceland, and tabes is the same.

Hutton practiced among Eskimos in Labrador from 1903 to 1908. He found syphilis to have been first introduced there in 1902 and until he left no cases of tabes had developed. A most interesting observation. Scarcely time enough had elapsed for the occurrence of tabes.

It is notable in Ceylon that tabes and paresis are extremely rare though syphilis is rampant in all races (21).

Various authors of works on tropical medicine in both French and German languages mention syphilis as being common enough in all parts of the tropical world, but have uniformly found that tabes and paresis were very infrequent. Their reports show that in some parts of the tropics syphilis runs a very mild course, while in others its virulence is terrific, for instance, in certain parts of Africa, continental, it was seen as very mild, while in Madagascar it attained the virulence ascribed to it in the epidemics of the fifteenth century.

Scheube (Krankheiten des Warmen Ländes, 4 Aufl., Jena, 1910) gives it as his opinion that paresis is increasing in the natives of tropics coincident with the spread of civilization and its accompanying influences.

It may be that subsequent observations will show that the so-called para or meta-luetic conditions are present in the natives of the various parts of the world where it seems rare and simply has not been

recognized, or it may be shown that they have been absent or rare and will increase as the races come more to live under conditions of life approximating those of civilized lands or when they, as races, have been longer subject to the poison of syphilis.

Whether different types of treponema are the infective agents in different parts of the world, or whether, under certain conditions, the same type has greater virulence, we have no definite information and speculation is scarcely of use. The apparent or actual differences in the frequency of the meta-leutic diseases will no doubt be explained sometime.

NOTE.—We have been unable to find reports which indicated that either paresis or tabes is at all common in natives of the Philippines or of China, but such as we have found indicate that cases of each have been seen in both places. Information at present available indicates that both diseases are uncommon in the employees of the Isthmian Canal Commission.

Chapter V.

SYPHILIS OF THE NERVOUS SYSTEM.

It should not be forgotten that a psychosis may be associated with and caused by this form of organic brain disease. Only three cases reached us during the past year, June 1, 1912, to June 1, 1913, in which such a psychosis was present. No one type of mental disorder is found, as a perusal of the synopsis of our cases will show. Several other cases in individuals not in the service were studied by me during the year, and a brief outline of them will be given to illustrate certain points.

Certain of these cases are of particular interest because clinically they are general paresis, and can only be differentiated therefrom by serological methods. Needless to say, not all cases of cerebral lues become so mentally disordered as to require asylum treatment. When we consider, however, that only 89 cases were admitted during the year, and that three of them were due to cerebral lues, it is found that approximately 3½ per cent were due to this cause. Adding to this the 19 cases of general paresis admitted during the same time, and which we are coming to believe are certainly luetic in origin, gives 22 cases, or 24½ per cent, of all admissions due to syphilitic infection. As stated under "General paresis," this does not mean that 24½ per cent of all cases becoming insane during the year were due to this cause.

P. G. corporal 116 Co. C. A. C.; age 29; in service since age of 21. Sore on penis; date unknown.

When first admitted to sick report, in February, 1912, with his present illness, he complained of weakness in his legs. Went to duty, but returned in a few days with same complaint, and acted a little queer. Had frontal headache. History of headache at intervals since 1907, with paroxysmal neuralgic pains at base of skull posteriorly and in back of neck. Said to have been due to severe astigmatic error and gonorrheal arthritis in 1905.

June 3, 1912, though present, he failed to respond to his name at roll call; replied incoherently to questions asked by his company commander. On admission to hospital he seemed confused, and gave unintelligent replies to questions; seemed unable to find words; unable to carry out simple commands; when told to put out his tongue, only opened his mouth; wished to do as he was told, but could not.

June 5, Noguchi test positive with cerebrospinal fluid.

June 8, Wassermann test negative with cerebrospinal fluid; Wassermann test positive double plus with blood serum.

On June 8 and July 14 he received six-tenths gram salvarsan intravenously.

The following notes from his examination at Walter Reed Hospital cover his condition previous to his arrival there as well as while there. By Capt. L. L. Smith, M. C., July 24, 1912: On admission to ward he appeared to understand to some extent what was said to him, but unable to reply to questions, and answered all, "Yes; I know; but." At times would shake or nod his head in reply to questions—not always appropriately. When told to get up or sit down, open or close door, he does so. Puts out his tongue at command. Told to put his right hand on left ear, he says "no," and puts left hand out at right angles to body. Closes eyes promptly at command. Told to touch his nose, he whistles; told to whistle, he shakes his head.

No evidence of paralysis of muscles of articulation. Can not write his name at command.

August 7, 1912, Wassermann reaction with blood was "positive." Spinal fluid clear, cells per cubic millimeter 12. Noguchi test positive, Wasserman with spinal fluid negative, August 16, 1912.

When asked how many brothers he had, held up four fingers, then took one finger down, pointing to himself and meaning there were four boys in the family. Asked how many sisters, he said "back there," then held up four fingers. Do you want to go home? Shakes his head "no." Do you wish to remain here? "Yes"; and nodded affirmatively. Asked if ointment was rubbed into his skin every day, said "yes," and indicated by gesture how it was done. Told to go to supper and return to office after supper; does so. Told to write his name; is unable to do so, making a cross X. Can not write "cat" at order, but readily copied it. Told to touch nose; does so. Told to touch nose with left hand, he holds his right arm at right angles to his body. Told to touch right ear with left hand, he rises from his chair and raised first one knee and then the other high in the air. Told to get up and sit in another chair he attempts to go out at the door. Chair being pointed out he sits down. Later obeys same order readily. Told to say "soldier"; can not do so; says, "Yes; I know, but." Appears provoked that he can not do what he is told; wrinkles forehead and shakes head; can not repeat alphabet after physician; shakes his head, says, "Yes; I know, but."

Physical and neurological negative, beyond slight thickening of radials, left brachial artery much thickened, pulse in left arm weaker than right, blood pressure left arm 90 mm., right 125 mm. (systolic).

Some lymphatic glands enlarged. Patellar reflexes increased slightly. Tests of sensation unsatisfactory, as he is unable to cooperate. Left angle of mouth droops somewhat in showing teeth.

He appears happy, and no evidence of delusions or hallucinations can be made out. Cares for himself very well. Sent to Government Hospital for the Insane because it was believed he would become confused and wander off if left to himself.

Diagnosis: Cerebral syphilis, probably vascular form, causing motor asphasia, agraphia, and partial apraxia. Admitted to Government Hospital for the Insane September 2, 1912.

Examination here by me on September 9, 1912; he is able to speak only a few words, and can in no way give any history of self or family. He was sitting in ward as I approached and asked, "Is your name Corpl. G.?" Replies "yes," and when told to do so readily accompanied me. Able to give name in full at times, gives it at other times as G. only. Answers questions with "no," "yes," "I know." Shown a pen he can not name it, but says, "yes, sure," and indicates correctly its use. Dips it in ink and of his own accord writes his name, fairly well, not having been told to do so. How old are you? "No, sir." Can you write the answer to that? "No, sir." Unable to write anything from dictation, but makes an exact and absolutely literal copy of what is set as an example. He frequently points to what he has thus written, indicating certain words and the spaces between them and saying. "Here write (or right) in here, see." Of his own accord can write his name and no more. Unable to give a spoken or written answer to the written question, "How old are you?" though his manner indicates that he understands what is written. Are you a corporal? "Yes, sir." Is your first name Pearlie? "Yes, sir." Is this the Government Hospital for the Insane? "Yes, sir;" "no, sir." Are you sick? "Yes, sir." and "no, sir." Put out your tongue. Opens his mouth wide, fails three times, then succeeds. Told to close one eye, closed both. At command readily gives to me a brush that is in his pocket. What is that? (brush). "Sure, yes;" takes it and brushes his hair. Told to close eyes and brush hair, he does so, but keeps his mouth wide open and tongue protruded.

Tremor of closed eyelids, can not close one eye at order but can readily obey order to shut both; when I close one eye, he readily imitates it and laughs. Readily returns his brush to pocket, carefully and neatly closing the flap. Recognizes match box, pipe, and hat and indicates their use but unable to name them. Readily touches nose and right hand in imitation of me, but can not do so on order, makes a fist and says, "No, no." Told to touch nose with left index finger started to use the right, touched throat and mouth, then nose.

Touches nose and puts finger tips together after me but not at command.

Asked if he can understand all I say to him, replies, "Yes, yes, but." It seems that at times he does not understand though more often he does.

Pupils are round and equal, the right seems to have a rather limited excursion, though both react to all usual tests. Room being darkened both dilate widely. Little if any alteration present in other reflexes. No Romberg symptom. Readily perceives pin pricks over body indicating by a grunt when touched. Approximately localizes the point at which touched by pointing with hand.

September 25, 1912, at G. H. I.

Readily went with me to examining room. Seemed desirous to please. How are you to-day? "What, yes." Can you talk? "Yes, someday." Can you understand what I say? "Yes." Where are you? "Yes." How old are you? Unable to say. Makes several efforts to hold up his fingers in such a manner as to indicate his age, 28 years, but never gets it right though closely approximating it.

He knows a pen's use but unable to name it; he can to-day make an imperfect copy of what is written for him, can write nothing from dictation, nor can he write the answer to a verbal or written question. Does not, seemingly, understand written or printed language and not all that is said to him. In response to many rather simple commands he seems perplexed and does the wrong thing.

On September 19, 1912, the Wassermann reaction with blood serum was complete positive double plus. With cerebrospinal fluid negative, fluid clear, protein content (Noguchi butyric test) increased and there were 14 cells per cubic millimeter.

March 31, 1913, despite treatment there was practically no change. He was oriented, never violated his parole priveleges, always pleasant and agreeable.

Treatment has been with mercury and salvarsan controlled by Wassermann tests. This test has not yet been negative (August, 1913).

September, 1913, he has improved very little if any.

E. S. (colored), admitted to Government Hospital for the Insane January 25, 1913; age 32; meager education. History from his post gives nothing of importance in his family history. He has been a soldier since 1900. Prior to that had various "jobs." Has used alcohol to excess; no previous attacks known.

Present illness: Well until three weeks prior to admission to sick report. Record as a soldier good. Then, at 1 a. m., he went into the woods half dressed and remained until 9 o'clock praying. Then for three weeks nothing unusual was noted in his condition.

On the morning of admission at post after doing routine work went into the woods to be alone and pray. Said he had been praying day and night for three weeks; felt very happy indeed. Threw away watch, purse, etc., as he no longer had any use for such things. Baptized self in an icy stream. Went to room and put on civilian clothing to go out into the world to save sinners, but was sent to the hospital. On admission he was excited but oriented and answered questions intelligently. On several occasions he required restraint because of his great excitement, incessent activity, and constant running about and praying.

Had no insight and physical examination was negative except general lymphatic glandular enlargement, positive double plus Wassermann, minus knee jerks, urine showing a trace of albumen and granular casts. Had auditory hallucinations which were "voices" and told him to be good and pray. There is a history of an epileptoid convulsion several years ago; not repeated. Outwardly the patient made a normal impression while at his post compared with his condition here.

I examined him on January 30, 1913, at Government Hospital for the Insane. He could give practically no account of his family or personal history, and all that could be gotten from him in regard to the origin of his present illness was a repetition of the phrase, "He got religions."

Mental examination.—Orientation: What place is this? "Here is where I enlisted. Sounds like a hospital for the insane, Columbus Barracks." What is the date? He was told to take a calendar from the wall and give the date. After almost destroying it, he said February 31, giving several others, none even approximately correct. Knows no one here. Says the other patients are "zizzy, quizzy, crazy."

He has absolutely no insight into his condition. Thinks his mind is perfectly normal and he is not in the least way sick, mentally or physically, and has never in his life been insane.

Emotionally he says he is most happy. Now says that he does not feel entirely well. His only worry is that he prefers a private room in which to wash his face and hands. He can pronounce some test phrases correctly; slurs others.

Hallucinations: Do you hear voices? "Any moment, any ear, any time." "They tell me everything I need to be told; you can tell by the air you breathe anything I can see about a person that is wrong." Whose voices? Irrelevant, unintelligible answer. Said that a small ink spot on the blotter looked exactly like a hand.

Visual: He says he has been surprised by things that looked like ghosts; has never seen God, but saw the devil one-half minute ago. Is very suggestible.

Delusions: The people in hospital at Fort Ontario tried to "screw him in two"; put electricity on him; "they thought I was too crazy, they would get out of the way."

Could not form sentences with given words. Difference between horse and ox? "You can see the ribs of a horse or cow by examining it as you would a bull or a calf." Water and ice? "There is no difference, except one freezes too hard, lumpy, double force, each way, crush and shape." Says some one in the hall just told him that; 6×2= "That's one —:2×3= that's 1×3;" unable to solve any simple problems. Gives occasional correct answers to questions on subjects with which he would be expected to be familiar; usually, though, answers are wide of the mark. His attention can not be kept to anything; he is distractible, destructive, constantly active, talking and mumbling to himself. Sometimes obeys simple commands; sometimes he does not.

Physical examination showed a well-nourished colored male; height, 69 inches; weight, 167 pounds; scar on scalp; no depression.

Sore on penis six or seven years ago; knee jerks can not be elicited. Pupils are round, regular in outline, and react very slightly to direct and consensual light. Cremaster reflex not elicited; otherwise negative. He has a complete positive Wassermann with blood serum, negative with spinal fluid, cells per cubic millimeter of fluid 175, protein content increased, fluid clear. Urine negative here.

Progress of case: During February he was happy, euphoric, smiling, or placid and not overactive, partially oriented only, heard the voices of God and angels until the 21st, when, about 6 a. m., he became restless, noisy, whistling, singing, struck his nurse, and it required three men to control him. Became destructive, destroyed everything he could reach, being highly excited, cursing and fighting.

Refused medicine; attempted to assault his nurses. During June and July he was much the same, hallucinated, unruly, removes clothes. Very dirty in his habits; numerous more or less silly and improbable delusions. Still fights and curses.

Auditory hallucinations seem most prominent in the picture.

Another of my patients, an ex-soldier, had a typical paranoid state with pronounced delusions of persecution against the officials of the soldiers' home, moderate ideas of grandeur, and a general lowering of his mental powers.

He showed a double plus Wassermann reaction with blood serum, negative with spinal fluid, marked pleocytosis, and increased protein content of spinal fluid.

Another case of cerebrospinal syphilis with serological findings similar to the above recently came under my observation. He had immoderate grandiose delusions, numerous signs of organic brain disease, in general a typical picture of classical general paresis. Under salvarsan and other antiluetic treatment he improved until he was able to leave the hospital on his own responsibility. His, undoubtedly was not a case of paresis. Such examples show that not every case with grandiose delusions is paresis and the opposite is most true, that not every paretic has grandiose delusions; indeed we often see them with no delusions at all.

One of the last cases admitted from the Army with cerebral lues showed only a marked, in fact, almost a complete, dementia; he had little mental life remaining. His serological findings were as in the other cases here reported. An interesting point in his case was that he had been a heavy user of alcoholics for many years, so that very likely his dementia was in part due to this cause. When he reached us he could scarcely answer questions at all. Very little improvement has occurred.

It is well to remember the fact indicated by the cases above summarized, namely, that no one type of mental picture regularly occurs in cerebral lues. There may be simply mental deterioration, there may be paranoid states, excitements, and depressions, all with or without hallucinatory features; there may be a picture much like that of paresis (pseudoparesis), and lastly it is emphasized that a neurasthenic picture may result from brain lues, and this cause should be borne in mind when considering neurastheniform cases. Other finer subdivisions of the mental pictures are made, but the above represent them as we observe them here. The differential diagnosis is largely made on the serological tests which are outlined under general paresis.

Chapter VI.

ARTERIOSCLEROTIC MENTAL DISTURBANCES.

In this section attention will be directed to certain impairments of mental power and certain psychotic manifestations occurring during the involution period of life due to arteriosclerosis, because of their great military importance. They should always be borne in mind in examining patients who are within the proper age period. A recent article by W. Spielmeyer (13) is summarized below, as it is thought to be of general interest.

Arteriosclerosis is a disease process due to wear and tear. The physiological age and the amount of work required of the blood vessels are of predominant importance in the etiology of arteriosclerosis. Romberg said that arteriosclerosis is always most severe in that part of the body whose vessels have undergone the greatest strain. According to Aschoff, following the period of complete development of the elastic fibers in the intima there succeeds a period during which the vessel walls remain practically unchanged histologically. This period extends to the middle or end of the fourth decade of life; then follows the third or descending period in the life of the vessel which is characterized by the senile sclerosis. Many observations have been recorded as to causes other than age at work in arteriosclerosis. In certain cases, especially the early and severe forms, hereditary or toxic influences are often mentioned. The consensus of opinion among many writers of note is that in certain families there exists an inherent tendency to early arterial degeneration, possibly an inheritable lessened resistive power in the blood vessels.

According to most authors and especially Kraepelin little or no doubt exists that chronic alcoholism is an important factor and that it especially favors a disseminated sclerosis of the finer vessels. Excessive use of tobacco is without question damaging to the blood vessels, in certain instances at least. Herz is quite in the minority in his belief that these two poisonings are of no importance. Recent work tends to show that both are liable to produce vessel damage. Lead poisoning is often an etiological factor. Lues leads to regressive changes in the blood vessels which are quite similar to arteriosclerosis, the same for all practical purposes. That continued great physical exertion leads to arteriosclerosis is well known and it is also of frequent occurrence in men who live under constant excitement (nervous strain) and who are inclined to emotional outbreaks. States of con-

tinued anxiety and the weight of great responsibilities seem to favor sclerotic changes. Herz has recently and rightly emphasized the importance of the individual make-up—"the majority of arteriosclerotics regard their duty as an oath." It seems that he refers to chronically worried individuals. Vigorous and active natures, such as merchants, legislators, brokers, officers, etc., are, so Cramer believes, especially apt to suffer from sclerosis. Kraeplin calls attention to the frequent presence of toxic factors (alcohol and tobacco) in these classes. In this connection it may be noted with interest that females suffer less from sclerotic vessels than do men. Kraepelin found apoplexy about equal in the two sexes, but that men much more frequently suffered from diffuse sclerosis with corresponding general psychic symptoms and from the epileptic form.

Age period: Arteriosclerotic illness is most common during the seventh decade of life, but Kraepelin found cases as early as the fortieth year and as late as the seventieth. At the latter age the senile changes may also be present in the brain; perhaps the two commingled.

(Referring again for a moment to causative factors, it is recalled that Osler especially emphasizes the danger of overeating and deficient elimination. Evidence is being constantly reported showing that tobacco produces states of arterial hypertension, which, of course, tend to produce in time sclerotic changes.)

We do not know why in certain instances arteriosclerosis should be localized in the brain. Emotional stress and intellectual effort without doubt play a part, but can scarcely be regarded as specific. The most frequent locations for the sclerotic process (Romberg) are the heart first, then the brain and kidney.

Arteriosclerosis of the brain vessels is naturally a diffuse condition, and quite naturally may affect one or another region more severely than the rest. Anatomically arteriosclerotic conditions may be divided into two chief groups:

1. Those in which the vessels of the brain stem are affected.

2. Those in which the vessels of the cortex and white matter of the cerebrum are affected.

The two forms may be present at the same time, but are not infrequently seen alone. Arteriosclerotic changes are quite liable to occur in the basal ganglia, and may be present in the deeper parts of the brain stem.

The first form has been especially studied by Campbell and Jacobson, and are neurological conditions, psychic symptoms occurring only when coincidently changes have taken place in the cortex. We are here concerned only with the mental disturbances resulting from scelrosis of the cerebral vessels. Only recently has their study been

pushed. Alzheimer and Binswanger, in 1894, gave the first good description of the mental disturbances of arteriosclerosis based on anatomical grounds. The basis of arteriosclerotic mental disturbance is not so much the general softening and destruction of the cortical fibers as the more diffuse condition of cicatrix like alterations and changes at various points.

It must be borne in mind that the symptoms in any given case usually afford only a rather vague basis for exact localization of the cerebral changes. We are hardly able to-day to separate clinically an arteriosclerotic "perivascular gliosis" from a "cortical devastation" due to the same cause.

In considering a case, seek first to determine the amount of damage which the brain has suffered; localization is more or less secondary. Considering the damage quantitatively, one may divide the arteriosclerotic mental disturbances into two great classes:

1. The mild.
2. The severe progressive form.

The mild forms of cerebral arteriosclerosis: In speaking of them one quite naturally gives consideration to the initial symptoms of cerebral arteriosclerosis. Windscheid has called these mild forms the "nervous" form of arteriosclerosis.

Three cardinal symptoms are—

1. Headache.
2. Dizziness, syncopal attacks, vertigo, giddiness (Schwindel anfälle).
3. Weakness of memory.

Easy fatigueability, especially in the psychic sphere, is also quite characteristic.

This nervous form may make its appearance in the fifth decade, though it is more frequent in the sixth and seventh.

Headache is usually intense (may be absent); is most apt to be frontal. It is most severe in cases with increased blood pressure and may be a pressure sensation.

Vertigo, giddiness, etc., may be of different origins. May at times be ascribed to changes in the bulbar nuclei and the labyrinth. At other times it is a sign of more general brain involvement and may resemble more a temporary stuporous state. Herz recently advanced the idea that the more severe vertigenous attacks, especially the fainting, were caused by a sudden cessation of brain function due to arterial anemia produced perhaps by localized vessel spasm or contraction which differ, however, from such occurences in other parts by producing no pain.

These sudden attacks of unconsciousness may be the first sign of the disease. Certain somatic signs are of importance in the initial stages and the "nervous" form. Transitory sensory disturbances,

usually paresthesias, are of importance and are most common in the extremities. These may occupy only one side of an extremity, for example, the ulnar side of forearm and hand. Probably not a spinal condition, but due to affection of the cerebral sensory areas.

Migraine, with eye symptoms, or subjective sensations in the ears, may be noted. Concentric contraction of visual fields may be seen, but its diagnostic value is uncertain.

Transitory motor disturbances are of particular importance. They consist of fluctuating feelings of weakness, usually in the one or other limb. Passing paresis, especially of the hand, may occur. Apraxic disturbances are more apt to be seen in the severe cases. Transitory apraxic and aphasic attacks are not rarely seen, however, in the mild forms. Gross motor accidents, as hemiplegia, are rare in this mild form.

Sleep is usually disturbed (especially if blood pressure is high?), and may be refactory to hypnotics. A series of sleepless nights may alternate with nights of sound sleep.

Mental symptoms of the early stages are variously reported and do vary in different cases. According to Windscheid, a failure of interest and especially a loss in the productivity of the mind stand in the foreground. (A serious thing to have occur unrecognized in an officer holding an important command.) (Patients usually perceive this loss and are aware of their mental failure, but are they always willing to admit it to themselves and seek medical advice when the same may mean retirement?) Their power of comprehension fails, more or less; they become easily fatigued mentally and their increased difficulty in doing their work accentuates this fatigue.

Emotionally, these mild cases show changes. They usually show an abnormal irritability, which is one of the most usual symptoms. Not rarely they tend to be depressed and hypochondrical or may be emotionally dull. Some may be excitable or childish in mood. The tendency is generally toward irritability and depression.

Generally these nervous forms remain more or less stationary for years, or even a decade (especially if well treated and cared for). They usually die from heart, kidney, or other intercurrent condition rather than from the cerebral condition.

Alzheimer has shown that in this form severe destructive changes have not occurred. The most important change is in the neuroglia of the deeper cortical layers and in the cortical surface. These cases are very intolerant of alcohol. Their symptoms may be quite transitory, and there may be found from time to time striking variation in the severity of the physical, emotional, and intellectual disturbances.

Differential diagnosis: Neurasthenia and general paresis will give the most trouble. Grasset warned that care should be exercised in

diagnosing neurasthenia in persons within the presenile-age period. In the differentiation the previous history is of great importance. Increased blood pressure is rarely found in arteriosclerosis limited to the brain. Careful neurological examination and search for the symptoms herein given will aid. Some time may be needed to establish an absolute diagnosis.

In paresis the whole mental personality is changed, no sense of illness is present, the contrary being the rule in arteriosclerosis. By serological methods, elsewhere mentioned, the differentiation is easy.

The severe progressive form: This form introduces itself as a rule with the signs above outlined, and rarely these may be present for years before more serious ones appear. Many times the more severe symptoms, both mental and physical, become evident within a short time. An apoplectic insult may come first, succeeded by rapid mental decline, or the latter may precede apoplexy by years.

This dementia is characterized by a progression "in batches," and the mental symptoms are combined with more or less marked focal signs, indicating organic injury to the brain. Alzheimer said that the patients usually impressed one as suffering from a "brain" disease rather than from a "mental" disease. The progressing loss of mental power may be the only mental feature, or other conditions, to be mentioned later, may arise.

The weak mindedness may be marked by a loss of power of comprehension and inability to retain the things occurring in their daily routine. Early it may be noted that if asked a question which is at all involved, they may require a long time in answering it.

The memory suffers a gradual decay in such a way that the loss of knowledge is by no means regular in all lines; while there is a marked defect in one line, another may be relatively well retained. Judgment suffers some limitation but is relatively well retained. Insight may be long retained. Surprising temporary improvements may be seen. In cases living long enough, a complete loss of mental power occurs. Many die from various causes before mental loss has greatly progressed. Along with the loss of intelligence is often seen a marked emotional change. Most usually this is a depressed, lachrymose, self-commiserating and irritable state, often with a dread of coming insanity. In anxiety states the patient may be suicidal.

Others may be nonresponsive to emotional stimuli. Do not be surprised if the emotional condition varies greatly at different times. An excited euphoric mood is much less common than the depressive type in eary stages. It is well known that in arteriosclerosis the changes are by no means equally distributed, and this should be borne in mind: That the vessels of the brain, or even of some especial part of the brain, may be sclerotic when no others are. In some cases the blood pressure is high, in many it is not (in three cases

recently seen at the Walter Reed Hospital increased blood pressure was present in only one and his symptoms were by far the least severe—King).

Good observers report cases in which the kidneys failed to properly functionate when no evidence of nephritis existed (mode of diagnosis not given).

Patients with nephritis are liable to suffer from periods of mental confusion and quite naturally uremic attacks may complicate the picture. Glycosuria may be present. The author emphasizes the importance of careful ophthalmoscopic examination.

In this form headache early may be severe, lessening and disappearing as the case progresses. Usually worse in morning and during activity. Insomnia lessens as progression occurs. Epileptoid and vertigenous or syncopal attacks may occur. Severe general convulsions may be seen. Mild Jacksonian attacks may precede apoplexy. The results of the latter may be a hemiplegia, mild monoplegias, or such isolated conditions as the paralysis of the distal portion of an extremity, depending, of course, on the size and localization of the hemorrhage. All sorts of apraxic and aphasic disturbances are seen in different stages and different cases, and it should be remembered that they are not of necessity due to actual hemorrhage, may be transitory, and rapidly clear up, or be permanent. Neither are the anomalies of the reflexes and motor functions always due to hemorrhage. Histological alterations in the brain may cause them. Similar changes in the spinal cord may also account for some of them. Increase of reflexes is more apt to be due to brain changes, their loss or diminution to cord conditions. Bulbar signs may appear and speech defects and difficulties in articulation are not uncommon. Usually the speech disturbance is not of the type seen in paresis. Rarely it may be.

Much has been written about the pupil anomalies in arteriosclerosis. They show as a whole nothing which is characteristic. Depending on the location of the lesion the eye symptoms vary. Hemorrhage, causing rigid contracted pupils, is not frequent and paralysis or paresis of the external ocular muscles is not usual (it was present to a slight degree in one of our recent cases—King). Inequality in width between the two pupils is of more frequent occurrence, and not infrequently one pupil will show a more marked reaction to stimuli than does the other. In the cases in which the cortex is more strongly irritated on one side it is the opposite pupil which is the wider. Pupillary conditions not rarely vary from time to time. Weber showed that a rigidly contracted pupil may again acquire the power of reacting to light and on convergence. Argyl-Robertson pupils are not common. If the pupil fails in its light reaction, it is apt to fail also in its reaction to convergence.

In cases where no gross motor disturbance may have occurred motility is often seriously interfered with by tremors or coarse shakings and by a kind of false intention tremor. General loss of coordinating power is frequent. The handwriting, due to this incoordination, the trembling, and the general irregularity of the finer movements of the hands and fingers may be especially striking.

The spinal fluid in pure arteriosclerotics shows nothing which is diagnostic. In cases resembling paresis and giving a positive history for lues, and specially if the Wassermann reaction is double plus in the blood an examination of the fluid will be of great value in ruling out luetic conditions.

Active psychotic manifestations: In certain cases of arteriosclerotic brain disease such symptoms, more or less long enduring, may appear.

The intellectual loss and the variations in the emotional mood have been mentioned. Other states are apt to be seen, especially a confusional state more or less in relation to a syncopal or apoplectic attack. This is most apt to be of the nature of a delirious clouding of consciousness with visual and auditory hallucinations and delusional ideas of a terrifying and anxiety-producing type.

In other cases the symptom picture may be melancholic or paranoid in type. Depressions are especially apt to occur, even early. Such depressions are usually accompanied by delusional ideas of a hypochondriacal nature, perhaps with self commiseration and forebodings. If ideas of persecutions develop, they are variable and loosely if at all systematized and may change much from time to time. Hallucinations, especially of hearing, may appear. A progressive development of a paranoid depressed state and of a hypochondriacal state, with emotional depression and nervous signs, suggestive of focal injury to the brain, has been described. More rarely excited periods may be seen varying in degree and duration. A few cases presenting a mental state reminding one of catatonic dementia precox have been described. These various mental manifestations occur in a not inconsiderable number of cases of cerebral arteriosclerosis and must be regarded as "accidental"; that is, as being superimposed upon the general condition of greater or less mental deterioration (dementia) and we are unable to ascribe them to any definitely localized pathological process in the brain; when they pass the patient remains in his original state of greater or less dementia.

Arteriosclerotic epilepsy: There is a series of cases in which over a long period attacks appear which quite closely approximate the so-called "genuine" epilepsy. There are giddy or vertigo-like attacks, isolated jerkings, and convulsions which may sometimes be fol-

lowed by a delirious state of greater or less duration. In such cases, may be for years, no other sign of arteriosclerosis may be discoverable so that the underlying cause of the attacks may not be noted until some other sign of sclerosis makes its appearance. Kraepelin has recently shown that the greater part of these arteriosclerotic epileptics have been users of alcohol and he is of the opinion that this previous use of alcohol renders epileptic attacks much more probable when sclerotic changes supervene. It seems evident that we are not here dealing with an "alcoholic epilepsy" but something different, because in the former condition the attacks are as a rule particularly severe, while in the arteriosclerotic they are more frequent and relatively mild. It seems that one should not class as "arteriosclerotic epilepsy" those mild Jacksonian attacks which are sometimes caused by cortical irritation due to small focal changes in the respective motor (cortical) zones. The others are more general in type. We have no knowledge as to the exact nature of the particular histological change which produces clinically a late epilepsy.

Different conditions seems to be present in different cases, sometimes a "peri vascular gliosis," sometimes a profuse cortical alteration, and at others only numerous small cortical softenings may be found after death in such cases.

Certain forms of cardiac weakness due to sclerotic changes are believed to result in an arterial anemia of the brain with resulting epileptoid attacks.

The author describes the particular form of disease picture brought about by certain histological changes in the brain, which are, however, not of sufficient general interest to be detailed here.

Course: This has been partially indicated, the step-like progression of the mental loss, the variability in the intensity of symptoms at different periods. How long a patient may live is difficult to say. Death may come quickly or be long deferred, even for years. The terminal state resembles to a great degree other organic dementias but it is striking that the early acquired information may be retained in a fragmentary way, in spots as it were.

Diagnosis: Neurasthenia has been mentioned. The previous history is of importance. It should be remembered that sclerotic changes are apt to occupy early in neurasthenics whether it be of the acquired or constitutional type. The chief symptoms of arteriosclerotic conditions have been mentioned.

Paresis formerly gave more difficulty than now. A positive Wassermann reaction shows only that we are dealing with a syphilitic. Sclerosis of vessels is common in them and may occur early. But in such cases an examination of the cerebrospinal fluid (when pos-

sible) will give the quickest and most certain differentiation. The characteristics of the cerebrospinal fluid in paresis, tabes, and cerebrospinal lues have been given in the chapter on paresis.

In purely sclerotic conditions the spinal fluid will present a negative Wassermann reaction, even when the same is double plus in the blood. An increase in the albumen content is not rare in severe arteriosclerosis, but is usually less than in luetic diseases. A pleocytosis is also very rare in purely sclerotic conditions, and while it has been reported is of no practical value in deciding whether the sclerosis is or is not due to lues.

In cases punctured shortly following an apopletic attack the fluid sometimes has shown large numbers of vacuolated cells contained in a brownish yellow investing material, while free in the fluid were yellowish brown floating crystals. In general, when found in a purely sclerotic condition, its occurrence may be explained on the ground of a meningitic irritation, due perhaps to small hemorrhages or points of softening.

In differentiating between syphilitic brain disease and sclerotic conditions the pupil symptoms are important. In the latter the reactions to light, distance, etc., are often or nearly quite normal, and we rarely or never see the Argyll-Robertson phenomenon (loss of light reaction with retention of reaction for distance).

Again, in contrast to luetic conditions, there is the changeableness of the pupilary reactions in sclerotics. If they are affected to-day, at a later examination they may seem nearly or quite normal; such changes are rarely or never seen in paresis. Again, if the pupils are affected in sclerosis, both the reaction to light and distance are apt to suffer together.

The speech disturbances in sclerosis are seldom of the type seen in paresis. Focal signs of organic brain injury and permanent paralytic symptoms occur much earlier in the course of sclerotic brain disease than in paresis.

Somatic signs of vessel injury, such as heart and kidney conditions, are much more frequent than in paresis. Paresis is relatively rare after 55; sclerotic conditions are most common after that age.

Mentally, the essential differentiating factor is the long retained feeling of illness—that is, insight in arteriosclerotic diseases, the slower progression of the loss of mind, the patient retaining his psychic personality until late in the course in contrast to paresis where insight is lost early and never regained, and the loss of the intellectual powers and the formation of delusions is much more rapid. The personality is destroyed early in paresis.

Generally in arteriosclerotic conditions the general picture has a depressive and anxious coloring which is quite in contrast to the happy euphoric state of exaltation so common in early paresis. The

picture may be reversed but only rarely. In sclerotics who are exalted their ideas are relatively sensible compared with those of a paretic and deal with their normal thought content. In contrast to paretics, sclerotics retain, even in a high degree of excitement, a knowledge of their personality and social position.

To differentiate arteriosclerotic dementia from senile dementia is not always easy. Indeed the arteriosclerotic may become senile as age advances or the two may exist together. In general the loss of memory in the pure senile dementia is thus characterized; he has almost or a total loss of memory for recent events, while his memory for remote events may be practically unimpaired. In such cases focal signs of brain injury are apt to be absent.

Senile dementia does not usually occur before 70, but may be seen earlier.

Focal signs of brain injury, a more generally distributed loss of memory, retention of the psychic personality, and relatively long retained insight speak for arteriosclerosis.

The differentiation between manic depressive attacks and excitements or depressions due to arteriosclerosis must be made by the history, the presence or absence of the physical signs of arteriosclerosis, the age of the patient, and the presence in sclerotics of signs of mental deterioration. Manic-depressive patients are said to be liable to early arteriosclerosis. In some cases only the outcome of the disease will render certain the diagnosis.

From the consideration of the etiological factors the prophylaxis of arteriosclerosis will be suggested. Certain causes operative in bringing it about are unavoidable.

There is nothing new in treatment. The best modern ideas are available in many works.

Our experience has convinced us that not a few officers before reaching the retiring age, 64, become mentally inefficient from arteriosclerosis. It will be less often seen in enlisted men on the active list, most of them being too young. It is submitted to the service that careful search for evidences of arteriosclerotic mental changes should be made in officers within the age period for that disease when there is any ground to believe that their efficiency is diminishing or that they are having difficulty in managing their commands on account of their irritability or tendency to emotional outbursts. When such irritability and emotional outbursts are a constituent part of the officer's make-up and have always been present, it is even more important that he be looked after when he reaches the arteriosclerotic age period, for very probably his is a make-up tending to early arterial changes, and his characteriological traits will undoubtedly be accentuated thereby.

Without doubt the mode of life necessarily followed by military men favors the development of arterial changes, and oftentimes are added to this certain presumably avoidable toxic influences tending toward the same end. Bearing these two facts in mind it seems to us that we are entirely warranted in expecting to find not a few who suffer from mental reduction from arteriosclerotic changes before they are 64 years of age. The elimination of such is necessary for the best interests of the service and of the officers themselves, for even if they are still able to do their work after a fashion their remaining on the active list with its attendant responsibilities can not but hasten the progress of their disease and the coming of death. If arteriosclerosis is present in an officer and it can be determined that he has suffered no mental loss the question of his elimination or retention must be determined on general principles. If any mental impairment has occurred it seems better to eliminate him, for he is practically certain to break down under any stress of service. Do not be satisfied with other than the most thorough examination, both mental and physical, and take a most careful history.

Chapter VII.

HYSTERICAL PSYCHOSIS.

Only two soldiers (not prisoners) were received here during the year under consideration who might be said to be suffering from a hysterical psychosis of sufficient clearness to be reported.

Both are detailed below. Another enlisted man, markedly degenerate in type, was suffering on admission from a "traumatic hysteria" following a blow on the head. He presented here no valid reason for detention and was allowed to go. He presented hysteric anesthesias, paresis, etc., in addition to his mental picture. Another presented a history indicating that he was, while at the post, suffering from "anxiety hysteria." He improved and was allowed to go.

Some of the conditions described as having occurred in insane prisoners were perhaps hysterical. Hysteria (not always in the form of a psychosis) in its various manifestations is, we are led to believe, not so very infrequent in our Army. During the past year we have seen at the Walter Reed General Hospital at least six cases which could with quite certainty be called hysteria. One officer was certainly so, and another now under observation will, we think, prove to be. The others were enlisted men. We do not know enough as to the frequency and manifestations of this condition in our officers and enlisted men. It would be of decided interest and profit to all if medical officers would report cases coming under their observation, giving as full family and personal history as possible, with complete examination showing what symptoms were exhibited.

The two case histories mentioned above follow:

J. A. C. Private, C. A. C.; 23 years old; high-school education; admitted to Government Hospital for the Insane January 6, 1913.

Family history: Father nervous; hard worker; in easy circumstances. One sister nervous; jumps at slight noise; can not study; under medical care. Patient born in 1892, he says, and seems to have developed normally until he reached his third year in high school. Fell off in his studies because be became interested in the Army. Says he enlisted when he was 16 years old, in August, 1908, and served three years in C. A. C. Says his parent certified he was 18 years old, which is correct, it seems, as his age is officially 23 years. He seems to have gotten along perfectly well during his first enlistment. Discharged in August, 1911, and in September, 1911, returned to high school at his home. There he found insufficient excite-

ment; he reenlisted in October, 1911, and, after nine months' recruiting in Rhode Island, was sent to Slocum at his own request and assigned to a company at Fort Monroe.

His condition there is described as follows: Father probably alcoholic. Patient abstemious. Patient was excitable, with occasional attacks of extreme anger, followed by mental depression lasting several days. First symptoms on October 16, 1912; acted in a strange and somewhat confused manner. Later in the day he was accused of taking part in the theft of a bicycle and locked up. He did not seem to realize his surroundings, became uncommunicative, later mute, taking no notice of his surroundings and resisting attempts to do anything for him. Symptoms at time he left post: Excitability; irresponsibility; two attacks of stupor, last beginning October 29, 1912; duration, two weeks.

When seen by me on January 6, 1913, and asked to give an account of his present illness, he dated the origin two months back, adding that it is all like a dream to him since he went to Fort Monroe, averring that he can not recall anything worth speaking of except that a few days ago he "sort of waked up" and realized that he was in hospital. Can not remember entering hospital nor any events transpiring therein prior to his "awakening." He goes on to say "since I came to Monroe I used to go up in the parapets to be alone and think of home. It was the fartherest from home I had ever been (correct) and I was very homesick." He had a love affair with a girl in New Bedford, Mass., who was very fine in all ways and they were engaged. He insists that she took the aggressive during the courtship. As he tells the story it appears loosely woven and I am not at all sure he has not imagined some of the things he tells. He says she kept insisting that they be married, but denies that he had seduced her. As to his reason for not marrying: He does not consider the fact of his inability to care for a wife but gives great prominence to the promise he had made to his mother not to marry while in the Army. He was in a dilemma; he wished to keep his promise, yet he did not want to lose the girl. These two things were constantly on his mind. After a time she quit writing to him and then the trouble began. He alleges that he could not keep his mind on his duty. At drills he would have his mind on something else. Mental examination January 6, 1913.

Orientation: Correctly oriented for time, rather slow of comprehension, practically oriented for place and person and can give a good account of his journey here.

Emotionally he says he is somewhat "disappointed" at being here. Has no hallucinations at present. He has had prior to admission what may have amounted to visual hallucinations; he could almost see "my girl and home and the good times we used to have."

Denies delusional experiences. At times has been unsteady on his feet, and still has difficulty in comprehending readily what is said to him. Seems to be in a semidream state.

Mild memory defect for recent events. Amnesia for certain periods during 1912. General intelligence tests show no defect. He is a very intelligent young man.

Physical examination showed general excitability, all reflexes exaggerated, skin hyperesthetic, easily startled, otherwise negative. Vision fields normal. He soon recovered from this attack.

Urine and Wassermann tests negative.

C. H. M. Private, C. A. C.; 25 years old; admitted August 22, 1912. Family history August 28, 1912, by patient.

Paternal grandfather had "periodical melancholia." Maternal grandfather drunkard. Father "cranky" and sternly religious, otherwise negative.

Patient born in Kentucky in 1887. Birth and development normal. School until 14; generally head of his class. Worked in store from 14 to 16. Sixteen to 19 attended high school at Mount Vernon, Ky. Severed relations with father at 17 on account of alleged cruelty of father to mother. One year in Colorado as a clerk, doing well; then attended a college in Kentucky for two years. In July, 1909, while passing with his brother through the red-light district in Lexington, Ky., three negroes attacked them, and patient was hit on head with a "black jack," leaving a large scar in occipital region. He shot two of them dead, and his brother killed the other. Courts considered the killing justifiable. That autumn he entered the Johnson Bible College, at Knoxville, and attended two years. During his first year he did clerical work, some teaching, and kept up his studies. At about the end of the term (in 1910) he became excited, nervous, saw the negroes he had killed, and was much afraid of them. Was in a hospital for about two months, recovered, and was able to return to school in September, 1910, getting along all right until he left in January, 1911, to become pastor of a small church in Kentucky. About July, 1911, he was worried, couldn't collect his salary. One hot morning as he was giving out the hymn he felt weak in all his limbs, became faint, and on turning around he saw the two (dead) negroes in the rear of the pulpit and fainted. Two days later he ran away; remembers nothing of the next two weeks except that he began to drink whisky; came to himself in Cincinnati, 190 miles away, having spent about $360. This was practically the first liquor he had ever taken. Enlisted a few weeks later, August 10, 1911, in C. A. C. at Columbus Barracks. Got along well in service until present trouble began, which he describes as follows: Since about February, 1912, he had been under more or less mental strain, because his mother was about to lose some of his father's

estate. Drank very little, but was "worried." Early in July, 1913, he had a pass to visit a young lady near his post; when he left the post he felt nervous, confused, in a "blue funk." On Sunday afternoon a man accosted the girl while they were out walking, and the incident ended in his "punching" this man. Then they went to a moving-picture show during which he felt nervous and faint, and went out to get fresh air. As he went out of the room he seemed to see two negroes and fainted. The next thing he can recall is that a lodge brother had him en route to the post. There the sergeant noted his abnormal state and thought he was drinking, and sent him to bed. He could not sleep, but sat around most of the night. For this period his memory is hazy. Next morning sent to hospital. This was on July 8, 1912. For the next two weeks he was delirious and afraid. Every time he saw a negro he was very much frightened. Ordinarily now the thoughts of having killed two negroes does not worry him, though it did while he was preaching. He felt that he should not preach. Sight of a negro would not scare him now.

Mental examination, Government Hospital for the Insane, August 29, 1912, by writer: Perfectly oriented in all fields; normal emotionally.

Insight: Are you well? "Yes, sir." How is your mind? "All right." Have you been insane? "I believe that I have." How often? "This has occurred three times." When? "In July, 1910, the first time, duration about three months; July, 1911, about one month; and in July of this year, about two weeks." Why do you think you were insane at those times? "For the reason that I have slight recollection of what happened during that time, and from the fact that I was constantly afraid of two niggers coming after me, and because I couldn't reason to my own satisfaction that they were not real niggers, but only imaginary." Are you afraid of niggers now? "No; I saw several this afternoon." The negroes he thought he saw looked exactly like the two he killed. Has perfect insight. Beyond some insomnia he is now perfectly well mentally so far as examination can show. Is a well-educated, well-behaved, very neat, rather good-looking young man.

Physical and neurological negative, except that fields of vision were much contracted concentrically. Urine and Wassermann tests negative.

Chapter VIII.

THE CONSTITUTIONAL PSYCHOPATHIC STATES.

The Congenital Defect States (Idiots, Imbeciles, and the Morons) and Persons of Psychopathic Make-Up of Different Types.

We will consider first the idiots, imbeciles, and morons, who form one type of congenital defect states, then the persons of psychopathic make-up, who form a second; both, of course, composed of psychopathic individuals.

IDIOTS, IMBECILES, AND MORONS.

Becker, (18) who studied these conditions very fully in the German army, states that it must be understood that the words "congenital defect states" do not represent any clinical entity; they form, rather, a convenient collective term to designate certain conditions of mental deficiency, part of which, indeed the great majority, are endogenous in nature, part, however, being acquired in early childhood (infancy).

We in armies see these deficient persons at adult age, when they are applying for or have secured enlistment. It is important, then, to bear in mind that for an adult to be classed as one of the above the mental defect must have existed since birth or early infancy. If it arose later from any cause the person, however deteriorated he may be, should not be classified as idiot, imbecile or moron, but as suffering from whatever pathological condition may have resulted in the mental loss, or as "mentally deteriorated from" (stating cause). A mistake very often made is to classify a person deteriorated from dementia precox as a congenital condition. Careful attention to his history will avoid this; in cases other than congenital it will be found that progressive mental development took place to a certain period, at which his disease and coincident decline began.

In speaking of a person who is mentally deficient we usually say that he is deficient in either the emotional or intellectual sphere, or both, according to the facts; while, strictly speaking, we can not thus separate the sum total of mentation in a given person, we can do so for practical purposes. Practically speaking, the emotional side of life may be said to be the feelings excited within consciousness by impressions received from without or arising within and rep-

resent at a given moment the person's attitude toward the external world. The intellectual side of mind has to do with the acquirement and retention of information of whatever nature. As said before, this separation is arbitrary and not complete, and disturbance of the one leads to more or less impairment of the other.

In states of mental arbormality either the emotional disturbance or the intellectual impairment may be the most marked feature of the case, but seldom or never is the one type of disturbance present to the exclusion of the other. Facts practically render this impossible. In idiots, imbeciles, and morons there is a greater or less loss according to which of the three be considered, in both the sphere of the emotions and the intellect. The latter is quite the predominating feature in the case, however, and it is on the basis of it that these persons are separated from their normal fellows and classified. A soldier, then, who is proven on examination to be congenitally lacking in intellect will, according to its degree, be classified as an idiot, imbecile, or moron, as the case may be. The idiot is the lowest of the scale. He has oftentimes practically no mental functions of any kind and is grossly defective physically quite generally. Idiots have been divided into various types, with which we have no concern here. The following definition adopted by the British Royal Commission for the Study of the Feeble-Minded (1908) is good for practical purposes.

An idiot is a person who is "so deeply defective in mind from birth or an early age that he is unable to guard himself against common physical dangers." The highest in the idiot class do not attain greater mental powers than those of a normal child of about three years.[1] Obviously these people are of no interest to us from the military point of view.

The same commission classes as imbeciles those who are "so deeply defective in mind from birth or an early age as to be incapable of earning a livelihood but are able to guard themselves against common physical dangers." The highest imbeciles are mentally about on a par with a normal child of seven years.[1] Imbeciles will not infrequently be enlisted unless care is exercised.

The morons, the highest type of feeble-minded, form a numerous class in every population, and will often apply for enlistment and not seldom be passed. Some of the highest in the scale may succeed in remaining in service, but can only be indifferent soldiers. A moron is "one who is capable under favorable circumstances of earning a livelihood, but who is incapable from mental defect existing from birth or an early age of competing on equal terms (in the sphere of life in which he is born or in one to which both he and his fellows

[1] Tested by Goddard's Revision of the Binet-Simon Tests.

may have been transplanted, as an army) with his normal fellows or of managing himself and his affairs with ordinary prudence (see "Mental Deficiency," by Tredgold, London, 1908). The moron does not grade above a child of 12 years of age as a rule.

The emotional defect in the imbeciles and morons varies from slight to the very great. As a general principle it may be said that they are more stable emotionally than are the psychopathic personalities soon to be described, the latter having, however, much greater intellectual power.

According to Becker (18), who follows Ziehen closely, the congenitally feeble-minded person differs from the normal through the lack of an harmonious development. In the normal child mental power increases with physical growth. New ideas and conceptions are constantly taken in, combined and assimilated and judgments formed. This is not the case in the feeble-minded, due to an intelligence defect. This intelligence defect is composed of a memory defect, a defect in the power of reproduction of ideas, a defective judgment, a defect in productivity of ideas, due to lack of or faulty idea association.

The memory defect is in itself a complicated affair. There may be disturbances of memory for the recent past, deficiency in the power of observing and retaining impressions, as well as a loss of ability to recall events of the remote past. For the accomplishment of reproduction a certain sharpness of comprehension is necessary, a tenseness of the attention, with the ability to select out and grasp the essentials. Even though used unconsciously, the power of judgment and the recalling and association of former ideas and impressions is required.

These things the feeble-minded can do only imperfectly. There are many who are really feeble-minded, and who can never learn and perform the things required of a soldier, who have (Becker) stored up a not inconsiderable amount of school knowledge, and who can on occasion reproduce it. They do better in simpler things which can be repeated serially, as months, days of week, simple addition or multiplication tables, subtraction and division being for them difficult or impossible. The retention of these things is to a large extent "mechanical," the more so the lower in the scale we descend, the sense being not at all or only imperfectly understood, and often even more poorly expressed. "Logical memory" is to a large extent absent—that is, there is wanting that searching into the sense of the word and thought; often they are unable to express a given idea in other words; knowledge with them, even if remembered, is not an active usable asset, their mind's machinery, if we may be allowed the term, is not smooth running and efficient, some portion of it fails to do its part.

In considering the school knowledge possessed by a person it must always be carefully noted what his advantages have been. Do not mistake a want of education for an inability to acquire it.

The consideration of the soldier or applicant's life history gives us a glance into his mentality.

By methodical and systematic questioning we should be able to learn whether in the past the practical facts of everyday life have been comprehended, have been taken up, retained, and can be recounted in a coherent manner. The proper relating of the previous history of one's life is not a simple mental function, but the product of diverse, often-repeated, mental processes, necessitating always renewed observation, retention, arrangement, and judgment, the product of which finally appears as the answer to the seemingly so simple request, "relate to me the history of your life."

Higher grades of feeble-mindedness, approaching the normal, grasp single impressions well, but they are not retained in the memory, nor are they associated with former impressions. Neither do they readily correlate similar, related, or causative circumstances—that is, on receiving new impressions they are not able to quickly call from their memory similar corresponding impressions previously received.

So also they are not able to correctly sum up the circumstances in which they are placed, they have no plastic conception of the relativity of things, for the single ideas grasped are not combined into a concrete conception of the whole, with prominence to the essential, less to the unessential.

Many of them, though able to form perhaps fairly accurate conceptions of things presented to the senses, fail miserably in an attempt to acquire abstract conceptions; they are unable to classify their ideas.

Thus their judgment suffers. The whole, with its various individual characteristics clearly defined, must be placed distinctly before the mind to give ground for correctly judging a situation; as they attain to only partial or faulty conceptions of this whole, their conclusions must of necessity be faulty and superficial. In other words, the memory pictures which are requisite to judgment are faint, possess little plasticity, are difficult to awaken; are not clearly viewed, as it were.

The thoughts awakened in the feeble mind by an idea, an impression, a conception or a stimulus word (as in association tests) are few and tend to repeat themselves; it does not occur that, as in the normal a train of thought is established, with active constantly freshening memory, picturing situations before the mind's eye, which situation can then be reproduced in words.

The more complex the situation or impression the more difficult for the feeble mind to grasp it. The same may be said of the normal,

but where the latter succeeds, the former may adequately understand and reproduce a part, or singly the various parts of a presented situation, but can not conceive of and retain in his memory the thing in its entirety.

This partial grasp of a situation, this inability to select out the essential from the unimportant, most impairs the usefulness of these individuals; they are unable to certainly follow, step by step, any series of ideas to the logical conclusion.

Obviously such men are not suitable for soldiers. Many feeble-minded experience great difficulty in understanding ethical requirements.

The feeble-minded as a class show an abnormal fatigueability, a high grade of instability, are easily diverted, and have great difficulty in keeping themselves consecutively applied; they are unable to fix their attention voluntarily on any subject with success for more than a short time. (Essential facts in the foregoing from Becker.)

Always bear in mind a soldier's educational advantages when examining him mentally and do not, as some have done, mistake the lack of education for an inability to acquire it. A man, basically normal but totally uneducated in school, may learn much and rapidly and be of use as a soldier after training, but the moron does not; we have it on good authority that they not only develop late but cease to develop early and few are susceptible of improvement after their sixteenth year. They may learn a little but not much.

The deficiency in morons is in practical as well as in school knowledge.

EXCLUSION OF THE IMBECILE AND MORONS FROM THE ARMY.

How then, are we to prevent the imbecile and moron from reaching the organizations of the Army? It is scarcely to be hoped that all can be excluded. In Germany, where theoretically and practically they have much better opportunity to learn the correct life history of the prospective recruit, which is really the most important single factor in the diagnosis, mistakes are made and even persons classed as idiots have been taken into the army. Such cases, of course, are very uncommon and with us idiots may be disregarded as the mental degradation and physical imperfections, having in mind our definition, are so great that there should be no difficulty in their being discovered.

The first rule to be insisted upon is that the line recruiting officer shall not accept any applicant whom he would be unwilling to have as a member of his own organization, or, if he does accept such applicants, he should state in his report why he does so, naming the apparent objections so that same can be carefully inquired into at the depot.

PRIOR TO ENLISTMENT AT THE DEPOT.

It is realized that the examination of applicants must be more or less rapid according to circumstances, and that only a small amount of time is available in the examination itself in which to study the mental status. But there are certain things which can be done then (and are done by many examiners now) which should be the rule with all. As yet we have not referred to the bodily signs apparent in the congenital defect states, but will do so in this place. The plan outlined below is, I think, practicable in any recruit depot:

(1) Dawson (Jour. of Mental Science) [19] says in reference to diagnosis of feeble-mindedness:

"A general survey of the individual will usually yield a valuable impression as to his mental status." It is scarcely possible to set down on paper what one gains by such a survey, but if the man is not alert mentally, is slow in movements, speech, etc., in general, does not make a normal impression, it is better to give him further attention from a mental standpoint, after ruling out physical disabilities. In our own experience we have been able to get a much better idea of the applicant's mental powers from viewing him dressed, when he was unaware of our scrutiny, than when he is stripped and standing up for examination.

(2) The so-called physical stigmata of degeneration should be looked for, which can be done in the routine physical, no extra time being required. It has often been asked of what value they are when present? A good idea of their general prevalence may be gained by observing the proven *good soldiers* at some physical inspection. They will not be found numerous or marked, we think.

Writers on the subject differ widely in their conception of the importance of them. As one has said, "one symptom does not make a degenerate," but a number of signs of possible degeneracy should lead to careful consideration of the case.

Stier says, "We know from experience that the mentally abnormal and the endogenous psychopathic constitutions show these stigmata often, and often several are seen in one individual."

Tredgold (Mental Deficiency) prefers to refer to the anomalies usually called stigmata as "anomalies of anatomical development and physiological function," and remarks:

> It has been remarked that similar anomalies occur in persons who are not otherwise abnormal, nevertheless it is abundantly clear that they are far more numerous in neuropaths and in aments (idiots, imbeciles, and feeble-minded) than in the general population. Further, that the number and severity is on the whole directly proportionate to the degree of defect.
>
> Whilst, therefore, the presence of a single anomaly has little or no diagnostic importance, the presence of two, three, or more is of considerable significance as an indication of mental defect.

Further on, page 129, he says:

> Anatomical anomalies, the so-called stigmata of degeneration, are usually neither so plentiful nor pronounced in the feeble-minded (moron) as in the imbecile or idiot.

It seems well established, then, that so-called stigmata of degeneration (not only anatomical but physiological and other varieties) are very numerous in idiots and tend to become progressively less severe and less numerous as we ascend the scale through imbeciles, feeble-minded, constitutionally inferior, and psycopathic personalities to the normal.

As to what individual anomalies to look for and the relative importance to be attached to them, we find Stier laying stress upon variations in the cranial capacity from the normal, irregularity in placing of the teeth, malformations of the genitalia, and, what is most important, the general disparity between the age and appearance of the individual, i. e., between what he should be if normal for his age and what he is.

He also places value on speech disturbances, as stammering, stuttering, asymmetries in facial innervation or development, marked congential abnormalities in eye movements, tic-like movements, and certain habits, such as severe biting of the finger nails.

In Church and Petersen's (1911) book we find the facts emphasized that asymmetry and deformities of the skull, under or over capacity of the cranium, facial asymmetries, departures from the normal in the shape of the ears and hard palate, marked dental anomalies, asymmetries of other parts of the body, especially departures from the normal in genitalia and speech defects; especially if two or more of the above are present it should lead to an investigation of the mental status of the person under consideration.

Tredgold states "that in his experience the cranium is the most common site of defects, and he believes it to be abnormal either in shape or size, i. e., asymmetrical, bossed, or ridged in fully one-half of defective children," which defect of course persists when these children become adults. He also emphasizes the frequency of hard palate anomalies, and malformations of the ear and eye.

He says further "that diminution or excess of movement which characterized the (feeble-minded) child is still a feature of the (feeble-minded) adult, and the balance and the carriage of the body are often still clumsy and ungainly though the adult has, with the practice resulting from years of experience, gradually acquired a certain amount of muscular control."

What importance, then, are we to attach to these anomalies of development in the anatomical sphere. From the above-quoted remarks of men who have had wide experience and from our own observation we are sure that there is a relation between the so-called

stigmata of degeneration and deficient mental power. It must be stated emphatically that one can not diagnose a case as defective mentally because of the presence of such anomalies, even if numerous, any more than he can because he is lacking in school knowledge. The latter may be lacking through deficient schooling, while at times we see well-balanced minds in markedly defective bodies. In the latter case the arrest or distortion of development has spared the brain. In looking for evidences of typhoid bacilli in water we seek other bacilli, easy to be found and which are often but not always accompanied by the typhoid bacillus, but so often in fact that if we find them we say that they are "indicators" of the presence of the typhoid organisms. So it is with the stigmata under discussion. They indicate a possibility, oftentimes a probability, that there is a deficiency in some sphere on the individual's mental make-up, and when we find such "indicators" present the man should never be enlisted until further tests have cleared up the situation. It is obvious that if any person applying for enlistment has physical defects, congenital or acquired, which unfit him for the military service, he should be at once rejected on that ground, no necessity existing for the study of his mental state.

(3) Manifestly the measurement of the cranium of all applicants for enlistment is physically impossible, but it is also unnecessary. Every medical officer who is to examine recruits should familiarize himself with the appearance of the normal cranium and should practice judging from this appearance its possessor's cranial capacity. Men who have a noticeable variation either above or below the normal should be studied with care. If the variation is sufficient in either direction it is cause for rejection.

(4) Careful physical examination: An Army surgeon writing 20 or more years ago believed that the only reason that we do not get a greater number of defectives is that so many of them are rejected for various physical causes. This leads us to the conclusion that variations from the standard accepted as normal should only be allowed for very good reasons. My own experience has taught me to be very chary of waiving defects in applicants for enlistment. The nearer we keep to the normal standard the better will it be. One must not be misled, however, into believing that all feeble minded are physically imperfect. We have all seen quite perfect men, physically, but who had only a very moderate mental equipment. In some of this class there may be practically no bodily signs.

If at the first examination of the case there is anything in his manner, physiognomy, gait, general movements and appearance, or conversation, a glance at his life story or from the presence of the "indicators" above mentioned to suggest that he is not mentally nor-

mal, hold the case over several days, if necessary, until time and place are available for a more detailed inquiry into his mentality.

AT RECRUIT DEPOTS AFTER ENLISTMENT.

To our mind the following plan seems feasible. Men are on original enlistment usually practically unknown quantities. They remain at the depot, in most cases, at least one month. For our present purpose the depot may be compared to a school, the officers and noncommissioned officers representing the teaching staff and the recruits under training corresponding to the pupils, children, we may say, so far as military service is concerned, and now starting in to learn the service alphabet. Each man is set to do certain tasks and must conform to certain definitely laid out rules of conduct at all times. The teachers, in this case officers and noncommissioned officers, should be trained to observe each man closely to see whether or not he absorbs and retains his daily lesson. Let us suppose now, for example, that a recruit scholar has been in the squad for 15 days, yet he has not mastered the work as well as many other men or his comrades have. Now, the question presents itself for solution, why has he not done so? The problem is the same here as in the school room. If a pupil after a year's work has not progressed sufficiently to be promoted, the question asked is why?

The answer in the case of our soldier is the same as in the child. He may be simply not trying or he may lack the mental power to ever learn the drills, etc., what is learned to-day being forgotten to-morrow.

Then any man who does not progress in his recruit drills as fast as the "average" recruit should be sent to the surgeon in order that the cause of this lack of progress may be definitely determined and a decision reached as to whether or not it is advisable to expend further time and money on him.

The diagnosis must be made from a general consideration of the case and the presence or absence of the features emphasized in the description of the types. We hope in the near future to be able to standardize a set of tests for American recruits, the application of which will be as quick as possible and from which a definite conclusion may be drawn as to the degree of intellectual capacity possessed by a doubtful recruit. To devise such is no easy matter, but it is hoped that an adaptation of the Binet-Simon tests for school children, as revised by Goddard for use in America, may be successful. These tests, while of value in adults in trained hands, do not give entirely reliable results in those of mature age, which is scarcely surprising as they were originated for use in school children. Even if a set of tests can be devised or adapted from present ones which will

show the presence of intellectual enfeeblement, their use will not of course serve to eliminate the intellectually capable psychopaths soon to be described. Those interested in the Binet-Simon test can get valuable literature at a nominal cost from "The Training School," Vineland, N. J.

PERSONS OF PSYCHOPATHIC MAKE-UP OF DIFFERENT TYPES.

We have written in the previous pages of this chapter concerning individuals who were defective from birth in both the emotional and the intellectual spheres, but whose defect in the latter quite definitely characterized them and made possible a relatively easy recognition. Their defect is, so to speak, a "quantitative" one; there is a quite demonstrable failure to possess the necessary amount of mental ability. Presumably that which they do possess is of quite fair quality, as it were (though this is not altogether true, they are relatively stable individuals). In the class to be now considered it is not so much a lack in quantity of mind, if we may so phrase it, as the possession of a mentality which is "qualitatively" abnormal. A recent writer speaks of these types as having an "inferior emotional equilibrium in persons of good, at times of brilliant, intellect." The class as a whole shows various degrees of intelligence, varying from a type just higher than that of the moron to those who are very bright and often quite well educated.

These people, who are numerous in every country and whose recognition is more difficult than that of the idiot, imbecile, or moron, have been described under various terms by many writers. One considers them to be "emotionally unstable"; another speaks of various types of "degenerates," the "constitutionally inferior," the "psychopaths"; the French write of the "disequillebrated"; and several German writers distinguish groups which they describe as those with "psychopathic constitutions."

Tauzi has a group, the "constitutionally immoral," and Krapaelin speaks of "morbid personalities"; others note them as "pathological characters." All these terms apply to a great class whose limits are not clearly defined and probably can not be accurately delimited. They are not idiots, imbeciles, or morons, nor are they suffering from any form of mental disease, strictly speaking. Yet they are abnormal individuals, different from the great mass who come within the accepted limits as normal—one may choose whatever term he prefers in speaking of them; the essential thing is to be able, if possible, to recognize them when met with. As we see them, their essential defect is not an inability to acquire learning, either of a theoretical or practical nature, but an inability or lack of power or desire to apply themselves consecutively and with profit in any line

of work which they may assume during any extended period of time. They tend to follow a devious path through life, avoiding in some way their difficulties, never surmounting them. Oberndorf speaks of them as often possessing many of the characteristics found in men of genius and successful attainment, but lacking the determination and poise to complete what they may fully plan; after a transient outburst of intense application they hesitate, fluctuate, and discontinue without plausible reason. They are, as a class, unable to fit successfully into any situation for any great length of time, and no doubt make up in part what has been called the "great army of unemployed and unemployable," who are constantly on the move from place to place and job to job, expecting better "luck" next time. A German writer recently said of them: "These men come into the world (usually) with an hereditary burden, with certain somatic anomalies (usually), and show as children the psychic traits which for their individuality are predominant. They are marked above all, generally speaking, by oversensitiveness and a disharmony—a defect in the harmonious relation between individual psychic factors as well as in individual psychic spheres may be noted—therefore there is in the end a morbid summing up and assimilation of outer excitants (events?) and an inability to satisfactorily adjust themselves to life in general and to their own individual circumstances and environment in particular. This disharmony finds its expression first in an overweight of the emotional elements (feelings) over the intellectual faculties, and especially over the powers of judgment, and in the subordination of the latter (judgment and intellect) to the first. Further, the feelings (emotional reaction to events of life) of these men are abnormal as well in their depth and duration as in their intensity. The emotional reaction is either overpoweringly strong or again incomprehensively weak in relation to its stimulus; despite the extravagant excess of reaction it may quickly pass or yet again continue disproportionately long. The behavior of these men also, corresponding to their varying emotional reaction, is uncertain and different in different individuals; either they show only a weak trace of an emotional outbreak, which as quickly subsides as it became inflamed, or their conduct may be characterized by an unusual immoderate obstinacy and implacability. Such persons are usually in the highest degree superficial; their actions and plans are insufficiently grounded, to a large extent based on accident, as it were. Their life is made up of transitions from one extreme to the other; from burning love to bitter hate; from, as it seems, highest standards of honor to the most extreme contradiction; from absolute good to its direct opposite.

Along with a strong, though momentary, as it were, excess of energy in certain lines, there is present a lowered degree of excitability

in certain other spheres, there is often a defect in initiative and endurance. And again in direct consequence of the uncertainty and flightiness of the feelings, they are vacillating, irresolute. Fixity of purpose and decision are notably absent in the patient's life, and there is a greater or less degree of constant uncertainty and self-reproach. Many times certain categories of feelings (emotions, desires, impulses) stand preeminent; others may appear dormant or blunted, blighted, as it were, in their development, showing a marked disharmony in the emotional life, and as a result an equally noticeable disharmony in conduct and action.

Morbid doubts, suspicions, jealousy, or envy are traits which may occupy the entire emotional field of the individual's life and influence his conduct accordingly. Another emotional factor, the so-called depressive or excitable disposition, may be particularly marked, and hence depressing or exciting influences may have an unusual effect upon the individual. Not rarely a pathologically developed egotism, an exaggerated sensitiveness, a tendency to overnote all personal slights or griefs, to persistent clamor after one's rights, to retaliation for presumed injuries and injustice are essential traits.

Men are often found among the degenerate with an almost complete cessation of the usual type of intellectual life, but with a pronounced tendency to metaphysical speculations, mysticism, occultism, etc., or to extravagant fancies, and a tendency to dreaming or fantasy formation, and to elevate into the realism of fact the air castles of their dreams with complete loss of the usual viewpoints, entirely ignoring the iron logic of life which they can or will not comprehend. In general they fail to meet the demands of life, they are turned into themselves as it were, delivered up to the kaleidoscopic play of their emotions, which are short enduring, imperfectly deep, and exceedingly variable in their intensity. They are varying and uncertain in thought and judgment and in the motives for their actions and behavior. They thus progress through life with no directing motive, without any guiding idea, lacking in will or initiative, a slave to the passion of the moment. They are unable to do systematic work, yet at other times under the influence of their peculiar emotional make-up they sacrifice all to carry to completion something which proves useless and disappointing.

These men lack certain critical powers and guides; they are in many instances slavishly subservient to the influence of the moment, regardless of its consequences, often find themselves in want and penniless, and quite naturally and easily slip into the life of the drunkard, the vagabond, or the criminal, perhaps all three. (In this state they often seek enlistment.) In prisons (or armies) they often become insane, which mental illness is often held to be "simulated." Such in brief is the mental make-up of the degenerate. He

can not cope with the world save in his own peculiar way. Individuals of the general type above mentioned are useless in the regular service in time of peace. The necessity of conforming to discipline is too much for them, and they are unable to adjust themselves to it—desert or are persistently insubordinate, especially in minor ways, usually are excessive in alcohol and often quite intolerant to it, and may be guilty of serious crimes under its influence, or even without it under some grievance or in a moment of excessive rage. They are often excessive in their sexual life, and may be addicted to any of the sexual perversions.

When discovered they should be discharged. They may be of some use for short periods in war, but we doubt if they are worth the trouble they cause even then.

Hysterical, neurasthenic, and paranoid conditions not amounting to a psychosis may arise in certain types. We have seen certain cases of this nature in our service.

The conditions referred to in the chapter on prisoners as instances of "prison psychosis" arise in certain types of these psycopathic individuals. As noted there these "prison psychoses" may be frankly hysterical; in others there is a picture more or less resembling the catatonic state; others may be paranoid in form. Such states may, it seems to us, arise in the Army itself, especially in foreign stations where there is little or no opportunity for them to flee from the surroundings to which they are unable to adjust themselves; that is, to desert.

Kraepelin in one of his editions (seventh) states that the type of psychopaths who show the general inability to adjust themselves with contentment in any sphere of life, the nervous type and those whose make-up predisposes them to greater than normal reaction to depressing or exciting influences, are more apt than the others to develop actual psychoses.

Chapter IX.

INSANE GENERAL PRISONERS.

The records show that since June 1, 1908, 35 general prisoners have been admitted to this hospital, mostly from military prisons. How many others have been found insane and otherwise disposed of I do not know. The majority of the 35 had been sentenced for desertion, fraudulent enlistment, a few for assault, one for murder, and a few for theft or robbery.

Of the 35, in 26 cases a definite diagnosis of one of the usual forms of mental disease could be made. Twenty-two of these had dementia precox, 18 hebephrenic, 3 catatonic, and 1 paranoid case. Two had attacks of manic-depressive insanity, manic phase from which they recovered. One was an imbecile who had an excitement. One was epileptic with periods of confusion following an attack.

About one-third of these cases were studied by me personally, in the others the history was reviewed, and while in some perhaps the disease began in prison, in most, the evidence pointed to the fact that it had existed prior to the commission of the crime. Then, 74 per cent of the cases had mental disorders not dissimilar to those generally seen. All but four were of one disease, dementia precox. Probably the fact that they went to prison had little if anything to do with the origin of the disease, though in some it colored the symptoms and in some may have made them more severe.

On the other hand in 9 cases (25 per cent) a class of mental disorder was seen which was difficult to classify. Undoubtedly the patients were markedly degenerate types, and while a more complete history might have shown differently it seems reasonable to believe that their mental abnormality was in reality their mode of reaction to the environment (prison) in which they found themselves, a "prison psychosis," as it were.

The nine individuals referred to were diagnosed as follows:

One was a psychopathic individual who developed a "hysterical psychosis in prison."

Two were psychopathic personalities who had developed "psychogenic psychoses" in prison but were "not insane" on arrival here.

One man suffered with a prison psychosis of the "catatonic" variety. (See case J. C.)

One was a "psychopathic personality subject to episodic attacks of mental disturbance with subsequent total amnesia for same either

hysterical or epileptic in origin." (See case P. C. W.) We heard recently that this man continued his inefficient career after his discharge and is now again in the hands of the authorities for forgery. Such men should be permanently removed from society.

One had an "unclassified depression and excitement" prior to arrival. Probably an unstable, inherently degenerative type, whose psychosis was allied to manic-depressive insanity though not typical of same. It seemed to arise when his conditions of life became stressful and subside on removal of the strain.

One was a constitutionally inferior person who, under prison régime, became depressed to a degree sufficient to warrant its being considered pathological. He was seemingly in a most disturbed state of mind when he enlisted, rather depressed, owing to the recent loss of his wife. He was unable to adjust himself to military life, soon deserted, and when placed in prison for same became depressed as above noted. Eventually he recovered. His recovery was not so rapid on removal from prison, suggesting that other factors still continued operative, and it was only after time had elapsed that he was able to readjust himself.

Another case was quite similar to the above, save that the family loss was absent.

Another was a psychopathic individual who became confused in prison. He recovered eventually.

Summary: J. R. L. White male; age 22 years; general prisoner; charge desertion; sentence 18 months. Sentence expired November 11, 1908. Father died of cerebral apoplexy; no history of mental diseases in the antecedents. Patient denies having any of the diseases of childhood; always enjoyed good health. Attended school from his seventh to tenth years; claims he made good progress and had no difficulty in keeping up with his classmates. Says he left school because he did not like it and because the teachers were hard on him. After leaving school he had a number of different employments, all of which he changed in the hope of bettering his condition. His life was uneventful until he enlisted in the Army, June 29, 1907. He deserted the following day, was apprehended, and placed in the guardhouse for seven days. He was then let out and ran away the same day. He returned to his home and was again apprehended about a week later. He was court-martialed for desertion and sentenced to 18 months' imprisonment; says he ran away because he didn't like the service; denies the use of alcoholics in any form; no drug addiction. Has had gonorrhea and syphilis. He states that after deserting the Army and while in Toledo he was arrested for stealing a bicycle, was fined $50, and given 30 days in the workhouse. He was serving this sentence when he was turned over to the military authorities. He denies ever having epilepsy or fits; states that while at

the prison, June 12, working in the stone quarry, he had an attack during which he became dizzy and fell over unconscious, foaming at the mouth. He was taken to the hospital; says the attack lasted about half an hour. Following this, according to his statements, he was numb for several days; says the doctor pinched and stuck him, and he was unable to feel it. He told the doctor he thought his stomach was rotten, because he felt sick there. Says he was regarded as weak minded by his associates over a year ago; claims he was roughly used at home by his brothers and beaten over the head frequently.

Medical certificate states patient's father died from paralysis. Patient does not drink or use drugs. He has had two or three attacks of epilepsy; came on sick report complaining that all feeling was lost over the body surface and later that he was quite sick. He presents a very solemn countenance, can not be provoked into smiling, and complains that his conduct has not been what it should have been, and that he is rotten through and through.

Physical examination: Facial expression imbecilic; presents some of the stigmata of degeneracy; some deformity of right ear; no areas of anasthesia. Physical examination practically negative.

On admission patient appeared dull, apathetic, somewhat apprehensive. When told to accompany the supervisor to the ward he became very apprehensive and begged the sergeant who brought him to remain and go with him. He appeared quite feeble and was much reduced physically. On questioning no replies could be elicited. Occasionally he would mumble in an undertone but what he said was unintelligible. All his movements were very slow. He was put to bed. Most of the time he would sit on the side of the bed in one position and took no interest whatever in his surroundings. At no time would he volunteer to impart any information and rarely made any effort to speak. Occasionally he would answer questions in monosyllables. Ten days following his admission he was gotten up and dressed and allowed to sit about the ward. He would sit in one place and stare into space. He remained dull and stupid until the 12th of July, when it was noticed that he was becoming brighter and was taking some interest in things going on about him. He began asking questions and moving about; spoke of having some kind of a spell in June at the prison while breaking stone, when he fell and became unconscious, and later was told that he frothed at the mouth. He says he was taken to the hospital and examined. States that his body and limbs were numb, more particularly on the right side. The doctor took his knife and pricked his right wrist in numerous places, drawing the blood, but this did not elicit any pain. He says he did not feel it. This condition, he believes, persisted about a week, when sensation became normal again. He denies ever

having had any previous convulsions in his life. States that he remembers everything clearly that has transpired since his admission here, and gives as a reason for not talking and taking an interest in things that he was afraid to say anything. He claims he was overworked at the prison, and as a result became nervous, lost his appetite, and worried about home. Until about December 1, 1908, his actions were rather childish and silly, and he was inclined to be mischievous. He was boastful and very talkative and fond of exaggerating. Since this time he has shown a gradual improvement, and at present appears to be in his normal mental condition. He has no hallucinations or delusions. Consciousness is clear, and he is well oriented in all respects. No attention disorder; conversation is coherent and relevant, but plainly shows defective education. He possesses but little school knowledge. Memory seems fairly good. The emotional tone is generally that of indifference. He possesses partial insight; reasoning and judgment defective; no vicious or harmful tendencies have been exhibited. A letter received from the mother a few days ago states that her son was never regarded as feeble minded, and that he never had convulsions of any kind.

This is probably an hysterical psychosis but may have been dementia precox. It is, however, not typical in any sense of the latter. He will probably have similar attacks whenever he becomes involved in any difficulty from which he can not otherwise escape.

J. C., general prisoner, admitted April 4, 1913. Certificate accompanying him gives age as 25 years; that he has been irritable and hard to handle in prison. Wassermann positive February 26, 1913. No previous attacks known. Disease first became manifest December 24, 1912, with complete loss of voice and convulsions. Had been unruly and irritable as a prisoner and other prisoners were afraid of him. At time of leaving prison would not talk and seemed afraid of something. I examined him here April 7, 1913, three days after admission. Heredity was negative according to his account. Came of a fairly well to do Jew family.

When he first entered the examination room he would not answer questions at all, but after some reassurance he gradually loosened up and toward the end of the interview was talking fairly well. gives his name as Joe Cohen, age 27 years. As he says it he it looking all about him, his right leg and hand and left foot are shaking violently, and get worse as the examination progresses. If he uses the shaking parts the shaking ceases. He volunteers no information, all has to be gained by direct questions. Attention is quite easily gained but almost impossible to hold. Born in Boston, June, 1887. Six years schooling. Has worked as a baker on and off all his life. At this point an attendant sat down in a chair behind him. He became very much agitated and when asked the cause said, "He

ain't a soldier, is he?" He thinks some soldiers are trying to shoot him. Says he enlisted in the Navy in New York in 1908. Soon dishonorably discharged for absence or desertion. Answers are fragmentary and his memory for periods of time is poor. Says he has gone to sea since 11 years old. Has been all over the world, sometimes baker, sometimes fireman. Claims to have never been drunk and never in a hospital for insane before. Has smoked "hop on and off for years." Describes "coke" parties at which he has been and seems to enjoy the recollection very much.

Records show that he enlisted in the Army September, 1912, and was dishonorably discharged November 24, 1912, and sent to Fort Jay to serve 12 months for fraudulent enlistment. Conduct remained good until December 24, 1912, when he made an apparently unprovoked attack on the sergeant of the guard with a coal shovel and was hit in the head with a gun butt by a sentry. Was taken to the hospital and one-half hour later when seen by a medical officer was conscious but refused to speak. No evidence of injury but objected to his head being touched. Three days later had an epileptiform convulsion lasting about three minutes, with general convulsive movements, frothing, and widely dilated pupils. Had erysipelas (facial); recovered in one week. Suspected of being a malingerer, but not confirmed. Pupils were unequal, tremor, and unusual movements of the right arm.

Mental examination Government Hospital for the Insane, April 7, 1913.

Orientation: Where are you? "I don't know." Are you in New York? "No; Christ; we left New York a long time ago." Are you in Washington? "A fellow told me," says "this is a hospital." Do you think so? "I don't know." He moves all about in his chair, restless, very evidently afraid of something. It is evident that he realizes his surroundings, knows correctly the duties of those about him, and knows the day of month as April 6.

Emotional status: Are you sad? Happy? "I feel all right when them guns ain't around; you see I got to watch them all the time" (he certainly does). "They are liable to be around any time." Not worried, he says.

Insight: Are you sick? "No." He says his mind is in every way just as good as it ever was. The violent shaking and continued watchfulness is present in an increased degree, though he talks more freely. Says he is not crazy; ignored the next few questions, being too busily occupied in watching for the soldiers. Do you like it here? Mechanically said, "I don't know."

Hallucinations and delusions: Do you ever hear voices? "They give orders to shoot me if I open my mouth." Who? "The commanding officer." His name? "I don't know." He has not heard

this voice since coming here. He says that the reason he did not talk at Fort Jay was that he heard this voice say "shoot that s—— o—— b—— if he opens his mouth," and believing this he did not speak for three months. He saw soldiers about who had orders to shoot him dead if he opened his mouth. "One day they (several persons) tried to kill me, but I wouldn't stand for it. They took me down some place where I couldn't see and put something over my face and sent electricity over me and laid me down on a table. They put something over my face that smelled rotten." He can not explain the above. He denies hitting the sergeant as recorded in the history and turns to the attendant for verification, asking him, "I don't bother nobody here, do I?" He has seen no soldiers here and can now sleep as he does not have to be continually watching them. "Now, they ain't none around. When I came here they locked the guy with the gun (guard?) out and now he can't come in."

He was asked to use the words hunter, dog, and gun in a sentence and replied quickly and with manifest emotion: "I don't want no guns, G—d, d—n guns, I am afraid of guns." Becomes apprehensive and fretful and again denies hitting the sergeant.

He can not be gotten to devote his attention sufficiently to tell the difference between horse and ox.

Does simple mental arithmetic correctly. No Ganser syndrome. It seems that the idea constantly in his mind is "I don't bother nobody," "I am a good fellow," and he says these words over and over. When he has his attention directed toward his prison life his shaking and trembling become more and more violent. When I kicked my foot against the table behind him, he almost sprang from his chair, became violently excited, agitated, and frightened, began to look about and appeared unable to comprehend the occurrence.

His memory for recent and remote events appears unimpaired except those directly concerned with the onset of his illness, his attack on the sergeant, etc. For these he is amnesic. There is no mental deterioration present, but he is under an excessive emotional tension, being in constant fear of being shot for the past three months. Here he is already beginning to relax somewhat.

Physical and neurological, April 7, 1913: A well-nourished, muscular white man; 64 inches high; weight in proportion. Very nervous, constantly moving. Arms and legs shake violently under the least excitement. Eyes staring, fixed in one position, does not move them to right or left, up or down, constantly and apprehensively looking about, face is masklike; gaze is set. In looking about he turns the whole head, not moving eyeballs. Lips parted, motionless; does not wink his eyelids for long periods of time. Continually holds to his shirt with one hand. Forehead is wrinkled and eyebrows raised as high as

possible. Absolutely no movement of the muscles of expression. Skin of right side of body shows a little sensory loss, otherwise negative. Wassermann test negative here. Spinal fluid normal. Urine normal.

Diagnosis: Prison psychosis, catatonic form. It is a disputed question as to whether such cases as the above should be regarded as hysterical. We are inclined to so regard them. This and the preceding show some similarity. Within a few weeks after leaving prison J. C. was in his normal mental condition and asked to be returned to prison, preferring it to residence among the insane. His request was granted.

Summary J. J. Colored male; age, 27 years; admitted June 21, 1909, under sentence of imprisonment for five years for assault with intent to kill; sentence approved July 11, 1907. Medical certificate states the following: Patient uses alcohol and tobacco; at one time he admitted using cocaine, but now denies it. He denies venereal diseases. Symptoms first became manifest July, 1908; periods of maniacal excitement and delusions of persecution. Present symptoms of insanity are delusions of persecution, confusion, homicidal mania at times, impaired comprehension and memory. History previous to admission states that he had trouble in his company shortly after enlistment, about the fourth month. The first sergeant of the company interfered with gambling in the company, and during an argument the patient struck him over the head with a mess stool. He was tried by general court-martial and sentenced to dishonorable discharge and five years' imprisonment. His symptoms on admission (to the prison hospital) were irregular attacks of excitement. He was at other times quiet, but seemed much depressed; was often violent, very nervous before the attacks, and sometimes asked to be put in the restraint apparatus. A homicidal manic state was manifested at times. His general physical condition was good; impaired sensation in various areas; pupils sluggish; nystagmus; knee jerk normal; no ankle clonus or Babinski. Diagnosis, general paresis, February 26, 1909. Condition on transfer, unimproved.

One uncle on father's side was insane. Father was regarded as eccentric and rather religious. One sister was blind for several years, the result of an eczema (?). There is no other history of nervous or mental diseases in the antecedents; no tubercular history. Patient was regarded as a healthy, normal child; had the usual diseases of childhood. There is no history of convulsions. He began school when about 6 years old, and attended about 4 years, reaching the fourth grade. He had no difficulty in learning; did not like school and ran off; left home when about 11 years old. Most of his employment has consisted in working about stables. When 15 years of age, in 1898, he enlisted in the Eighth Immunes, United States Volunteers, at Fort Thomas, Ky. He was sent to Chickamauga

Park, stationed there about a year, and then mustered out. In 1900 he enlisted in the Ninth Cavalry, at Washington Barracks; was sent to Fort Duchesne, Utah, and stationed there about one year; was sent to San Francisco and then on to the Philippine Islands, arriving there the latter part of 1901. He says he was in 8 or 10 skirmishes; was never injured. He returned to San Francisco the latter part of September, 1902, and was discharged May 26, 1903. He was then married, and was employed in a piano store, where he learned the trade of hardwood finisher; was employed at this about three years. He separated from his wife in 1906; thinks she has obtained a divorce; he has not heard from her since that time. He has a little girl 5 years old, but does not know of her whereabouts. Patient reenlisted in February, 1907, in the Twenty-fifth Infantry, at Columbus, Ohio; was sent to Reno, Okla., and stationed there about four months. In June, 1907, while shooting craps with the sergeant of his company, he had some difficulty. Jackson claims he won several dollars from the sergeant and the latter refused to pay it; they had some words, and he claims the sergeant told him if he fooled with him he would kill him; he made a move as though he were going to pull a gun, and Jackson picked up a mess stool and struck him on the head, inflicting a small cut and knocking him down. He claims the man was not seriously injured, and was able in a few minutes to go about as usual. He says he was sorry he struck him, and also regretted the fact that he had been gambling. He was placed under arrest and confined in the guardhouse; was tried about June 21, 1909, by general court-martial, and sentenced to five years' imprisonment. He was sent to Alcatraz Prison in September, 1907, and says as soon as he learned he had received a five-year sentence for what he did he began to worry, became melancholy, and suffered with his head, had insomnia, worried a great deal about his sister, whom he says he supported. He had made an allotment to her, but this trouble would not stop it, and he felt sure he would suffer as a result. In May or June, 1908, he received a letter from his sister setting forth her circumstances. After this he worried more than usual. At this time he sent her about $20, all the money he had. He was sent to the prison hospital in July, 1908, and was there about two months. For about a month he was confused and excited, but has no clear idea of how he acted or what he said. He says he learned he was restrained part of the time during this period. At the time he left the hospital the doctor asked him if he did not want to go to the United States Army General Hospital, San Francisco, and he replied, " No." He was then sent back to prison. He says he was apprehensive at this time and fearful that they would mistreat him, cut him, or open his head. Regarding delusions of persecution, he says he does not believe he had any. What persecutions he spoke of, he says, were

absolute facts and could so be proved. After this he got on well until January, 1909, when he had another attack of some kind, and was taken to the hospital again. He says he does not remember anything until March, 1909, and then he was in the United States Army General Hospital at San Francisco. He does not remember being transferred there. After the latter part of March, he says, he was clearer and was up and around the hospital. He says the whole time he was there he assisted in the care of the patients; rendered valuable service, and during the fire there in April he assisted in rescuing the inmates from the building. A few days before the fire he captured a prisoner who was running through the streets in a nearly nude state, attempting to escape.

On admission the patient appeared somewhat depressed and nervous. He talked freely when questioned, and gave a very good account of himself. He said he had been very much worried over his incarceration in prison, and also about his sister, who he claimed was blind and needed his support. As a result he became nervous, depressed, and had insomnia. He denied the allegations in the medical certificate and stated he had never manifested any symptoms of insanity. There was no clouding of consciousness, and he was well oriented in all respects. He knew where he was, the character of the institution; gave as a reason for his being sent here the fact that they believed him insane; his comprehension was good and replies were fairly prompt, coherent, and relevant. There was no attention disorder, memory was good for both recent and remote events, except for the period of his excitement and confusion in August, 1908, and again from January to March, 1909. He stated he had no recollection of what he did or how he acted during this period. No hallucinations or delusions could be elicited. He did not believe he had been persecuted, but was certain he had been unjustly dealt with and his sentence was unusually severe. He laid great stress upon the service he had rendered the military authorities before being transferred here, and as they had given him considerable liberty about the reservation he thought the same ought to be extended to him here. At times he was a little inclined to become irritable and faultfinding, because these privileges could not be given him. At present patient appears to be in a very comfortable mental state. He has presented no active symptoms of mental disorder since admission further than a slight degree of depression. He now appears quite cheerful and discusses his case freely. However, there is a suspicion that he does not tell all he knows in regard to his previous mental symptoms, especially his confusion and excitements. At first he did not remember anything about them, but later said he did have the restraint apparatus put on him because he was disturbed; says this was never left on him more than an hour at a time.

When questioned closely and told it was rather strange that he did not remember anything he did from January to March, 1909, he began to laugh and said it was possibly so—perhaps he did know more, but that was all he wanted to say about it. When asked if he had faked any, he smiled and said, "No; you had better leave the whole case as it is." He says he has learned that his sister has regained her eyesight, and he is no longer worried like he was.

Physical examination is practically negative. There is an old scar on the left cornea, and a few copper-colored spots on the back, which are somewhat suggestive of lues. However, there is no positive history in regard to this disease. Cervical glands are also slightly enlarged.

Patient believes this whole affair will benefit him in the end, and add at least 10 years to his life; says the punishment has made a better man of him, and that hereafter he intends to lead an honest and upright life. He asked if it would hurt him any if it were known that he had feigned insanity; when told that the best thing to do was to tell the truth about the matter, he did not come out frankly, but intimated that he had "faked it." He states he had his confusion and excitements whenever he wanted them; says that he occasionally asked to be placed in restraint, telling the nurses he did not want to hurt any one; says he has handled and seen a great many insane soldiers and also "fakers." When asked some of the symptoms he exhibited, he replied that he talked incoherently, and would often repeat when the doctor asked him a question, "I don't smoke." This was all that could be learned; he said "Just leave the case as you put it down first." He still maintains that he has never entertained delusions of persecution. His memory seems unimpaired for both recent and remote events. He is fairly well posted on current events, and what limited school knowledge he had is fairly well retained. He answers questions promptly and coherently, there is no attention disorder, and emotionally he appears cheerful. Was finally discharged from here after his sentence had expired.

It is very difficult to classify this case without more history, perhaps not even then. He was probably suffering from a psychosis of some sort and may have malingered to a certain extent. He was, of course, not suffering from general paresis as his subsequent history proved. A very degenerate individual and his upset was probably hysterical in type.

Summary: P. C. W. White; male; 26 years old. A military convict, sentenced to four years for desertion and embezzlement. Paternal grandfather died in sanitarium; mother in general hospital; she was always rather nervous and excitable, suffered much with headaches. Aunt on mother's side treated in sanitarium, nature of trouble not known. Personal history, usual diseases of childhood;

received high-school education. At 15 had typhoid fever with relapse; at 8 years claims he fell off a scaffold, struck the back of his head; was unconscious for a short time. After this acted queerly; three weeks later put in Cook County Hospital for observation, it being believed he was insane; remained under observation three months, then returned home. When 16 years of age at school assaulted teacher, placed in sanitarium for six months; had no recollection of the occurrence, mind was blank for period of two weeks. Enlisted in Army March 31, 1901; in Philippines from March, 1902, to February, 1903; was dishonorably discharged for desertion. Reenlisted under name of Edward Warren; after serving four months showed symptoms of insanity. Was placed in guardhouse under observation for about six weeks and then sent here. Our records show he was admitted here May 28, 1903, discharged recovered June 23, 1903; diagnosis, acute mania. Convalescent on arrival; states for period of two weeks had no recollection of anything. After leaving hospital secured employment for two years in Chicago as bookkeeper. Reenlisted December 23, 1906; remained in service until June 1, 1907, when he deserted again; when asked why he deserted said he must have been insane. He remembers going to Boston, paying some bills, going into a saloon and taking a few drinks; after this his mind is blank for three weeks; when he came to himself he found himself in a boarding house in Pittsburgh, wearing clothes not his own; the underwear had initials stamped on it and looked like that worn in some institution. Landlady told him he had been there four days; secured employment as bookkeeper for four months. Received letter from friend in Fort Moultrie and went there and enlisted, under the name of Henry Ransom. He informed the company commander he was a deserter, was put in guardhouse, sentenced to imprisonment four years. Was sent to Fort Oglethorpe, Ga. On sick report two weeks with fever and headaches; sent to Fort Leavenworth, worked for one month, in hospital two months, was sent here. In 1901 at Fort Caswell, N. C., had sunstroke while drilling, was in hospital about six weeks, had frequent headaches. Has headaches and attacks of dizziness when weather is hot. Alcoholics in excess from 17 to 22 years of age; since then in moderation. In Philippines drank considerable "bino." Took cocaine to reduce fatigue, has not used any for more than a year. Denies any venereal history; no convulsion. Physical examination negative.

Medical history: Since 16 has had attacks called acute mania. Came to hospital under well-developed delusion of persecution. Present symptoms disorientation; for several days held systematized delusion that plans for a certain mining property were to be taken from him, has made every effort to sell an interest in this imaginary

property; no suicidal or homicidal tendencies. On admission here patient was confused, apprehensive, when asked his name hesitated, then gave it correctly but very slowly. Questioning seemed to startle him, he was nervous and ill at ease. When guards extended hands to say good-by shrank from them and appeared frightened. In dull, apathetic state till third day after admission; apparently suddenly cleared up; since then no evidence of mental disorder. Dr. Schwinn, first assistant physician, Government Hospital for the Insane, believed there was some exaggeration of symptoms on admission, possibly some degree of simulation; aside from this, he really suffered from a psychosis, nature of which from history is very indefinite. According to his statements the important feature is the amnesia which accompanied this attack and the previous ones. Some features are suggestive of catatonia; there is also the suggestion of hysteria, but he has not presented the usual physical stigmata of this disease. The origin may have been the fall in early life, as he had mental trouble shortly afterwards; subsequent attacks might have been epileptiform in character. In my opinion he is a constitutional psychopath, subject to episodic attacks of disturbance, the principal feature being total amnesia.

These nine cases are instances of mental upsets in highly degenerate types of humanity. The mental upsets are very apt to arise in them when they are confronted by a difficulty from which they can not escape. The symptoms may, broadly speaking, simulate three types, i. e., the catatonic symptom complex, the paranoid states with ideas of persecution especially by those in authority over them, and at times these may be a definite hysterical condition, with the usual signs of such a condition. We have now in hospital a patient, a former soldier, who has been in what is to all intents a hysterical stupor for months following the murder of a comrade.

They often malinger to a certain extent. A charactertistic of these conditions is that they rapidly improve when removed from the surroundings in which their upset occurred, for example, when sent from a prison to an asylum not connected with the prison, or when acquitted, or not indicted by grand jury, etc. Many claim that these states are malingered, but it seems more probable that they are psychogenic psychoses. One can with difficulty believe that any normal being can present for such a length of time the symptom picture detailed in these histories, however great might be his desire to do so. It is difficult to separate many of these cases from those of dementia precox, and often only possible by observing their subsequent course. (See references 16 and 17 for further descriptions and literature.)

THE DETENTION BARRACKS.

The recent decision to place purely military offenders in disciplinary companies with a view to their reformation and possible subsequent return to the colors is a distinct advance from the former mode of dealing with such cases. These "military" crimes make up, of course, the majority of the cases cognizable by general court-martial, and of these, two constitute the bulk, desertion and fraudulent enlistment.

Just why larger numbers of men, proportionately, should desert from our Army than from other armies, where the enlisted man is not so well treated, is not easy to say with certainty.

One reason which is certainly operative is that in our country, when compared with any European country, the chances of being apprehended are much less. Had the soldiers of Europe opportunity of escape equal to that enjoyed by our own, we predict that their rates for desertion would mount. Then, too, the somewhat (how general I do not know) general belief among civilians that desertion in time of peace is no more serious than the quitting of a job where no formal contract has been entered into may be to some extent responsible for men deserting. Just how often such factors as the above are operative we have no exact knowledge.

A great many men become deserters through their relations with lewd women or as a result of alcoholism, or both. No doubt many other "exciting" causes of desertion will suggest themselves to the reader.

We have stated above that the institution of disciplinary companies is an advance. It is, but we wish to propose as essential to its success the recognition of another cause for desertion and other military offenses, namely, abnormal mental make-up of different kinds. It is further suggested that unless careful efforts are made and only the mentally normal returned to duty after having committed offenses serious enough to warrant their trial by general court-martial disappointment as the results of the system will be felt. We believe that a large percentage of those sent to disciplinary barracks are sufficiently aberrant, either emotionally or intellectually, or both, to make them totally unfit for use as soldiers. It seems that the proper mode of procedure under the circumstances is for the medical department to investigate each individual who becomes a member of a disciplinary company and decide definitely on his mental status. This investigation should include:

1. The careful taking of the offender's family and personal history as given by himself, including the reasons which he gives for his infractions of military law.

2. The completest possible account of his family and personal history, obtained by letter or other means of communication, from his parents, friends, associates, and especially former employers. The history will often be most enlightening.

3. A careful mental examination at time of admission and as often as needful thereafter. This should determine whether his intellect and education (broadly speaking) are sufficient to enable him to adjust himself to his surroundings in military life to know and assume its responsibilities and to learn to perform his duties properly.

4. The character of his conduct during the disciplinary period, which will of course be one of the most important factors and observed by all who are over him.

It may be said that if an offender is able to behave well during the period in a disciplinary company that this should warrant his return to the colors. Not necessarily so, we think.

It seems that experience has shown that a great number of individuals who are emotionally or intellectually below par may do well enough for periods of time in an institution (under the stimulus of those over them) or on probation and yet soon lapse again when given sole responsibility for their conduct, and they again become subject to alcoholic and accompanying temptations.

We think the examination of offenders as above outlined essential if the highest results are to be obtained from the disciplinary companies.

In addition to detecting those whose mental make-up is such as to make them undesirable in the service we will obtain a mass of information of very great value as showing the type of men who commit our military offenses which will alone justify the labor and expense involved. In the absence of such definite information we can only state what such an examination would probably disclose.

1. A certain proportion who were actually insane or who had in the past suffered from mental disease, mostly dementia precox; if they suffered from precox, even when a so-called recovery had occurred, their mental powers remain insufficient.

2. A certain number, not very great, would belong to the class described in the text as imbeciles and morons (which see).

3. Probably a very appreciable number would be found to belong to that class described in the text as " persons of psychopath make-up of different kinds " (which see) ; useless as soldiers.

4. A few would be found to be epileptic or definitely hysterical.

5. Certain instances of abnormal sexual tendencies would be brought out (perversions or excess).

6. A few drug habitués (cocaine, etc.).

7. In any of the six types above mentioned abuse of alcohol may be expected and need occasion no surprise if found. They will, of course, not be returned to the colors.

In a detentioner who seems to be of normal mental make-up and yet there is a history of alcoholic excess, this excess must be considered along with other features of his case in deciding on his disposition. We think he should not be returned to the colors.

A minute and complete history of the individual is the most important part of the examination. Conditions other than outlined above may be met at times.

Chapter X.

TIME OF ORIGIN OF CASES OF MENTAL DISEASE ADMITTED FROM UNITED STATES TROOPS DURING PERIOD JUNE 1, 1912, TO JUNE 1, 1913.

By diseases: Paranoia (true paranoia of Kraepelin). Only one case was admitted during the period, an Englishman who had served one enlistment, then remained out of service for four years. His disease was quite manifest at the depot shortly following second enlistment. Its origin antedated his first enlistment. Remains in hospital. Wassermann test negative.

Manic depressive psychosis: Two cases both of the manic type.

1. Private, G. S. I.; 25 years' of age; had attacks of excitement and depression prior to enlistment. Was once in asylum in early manhood. Not in line of duty. Recovered from attack, and has been discharged from hospital. Wassermann negative.

2. Corporal, band C. A. C.; age 40+; rather bad family history; always of a very excitable temperament, but had no attack sufficiently severe to incapacitate him until he had been more than 20 years in service. Had a manic attack from which he recovered in about four months and was discharged from hospital. In line of duty. Wassermann negative.

Depression, hallucinatory: One case; an ordnance soldier 51 years old; 25 years' service. Was depressed, somewhat resembling an involution depression, and he also had auditory hallucinations. Case resembled manic depressive, but definite evidence was lacking, so it was recorded as above. Wassermann negative. Arterio-sclerotic changes may have played a part, but could not be definitely demonstrated. He improved sufficiently to go to the Soldiers' Home. Condition was in line of duty.

Paranoid dementia precox: 1. Capt. C. A. C.; 39+ years old; in service since 1898. Development of his psychosis can be traced back at least six years, though he became demonstrably incapacitated only recently. Always of a peculiar unsociable tendency. Very straight-laced and sensitive. Origin, in service on constitutional basis, in line of duty. Remains in hospital, steadily deteriorating. Negative Wassermann.

2. Chaplain, Cavalry; 39 years old; commissioned 18 months previously. Disease existed in incipient form prior to commission. Symptoms subsided after about a year and he was discharged into

the care of his wife as "improved." Wassermann not diagnostic with blood. Spinal fluid examination negative. He did not have lues.

3. Private, M. P. G. Alcatraz; in early thirties; origin of disease about four years before it was recognized. He had nine years' service at time of its origin. In line of duty. Remains in hospital progressively deteriorating. Wassermann negative.

4. Disease arose after more than 10 years' service in a soldier of the Ordnance Corps in his late thirties. Arose in service in line of duty. Negative Wassermann.

5. Private in C. A. C. band; over 40 years old. Whose disease had been present for 20 years. In an asylum prior to original enlistment. Deterioration has been slow and he has since served several enlistment, always having more or less trouble, consequent no doubt to his disease. His life has been one mass of difficulties. Wassermann negative.

Paranoid states: 1. Soldier in service several enlistments. Will give no history, hence date of origin can not be traced. In view of service record it probably began several years since. Considered to have originated in service and to be in line of duty. Negative Wassermann. Discharged as "not insane." Symptoms had subsided on arrival here.

2. Soldier in first enlistment. History of great difficulty in getting along prior to enlistment for two years. Existed prior to enlistment. Negative Wassermann. Discharged as social recovery. These two may have been paranoid precox, but evidence to clinch the diagnosis was lacking.

In view of the fact that these paranoid psychoses become manifest, as a rule, at a relatively later age than other forms of precox, it is not surprising that such a percentage appears to have arisen in service.

Catatonic dementia precox: 1. Private, 145 Co. C. A. C.; 29 years old; in service since 1904; psychosis manifest several months prior to admission. Arose in service in line of duty. In hospital unimproved. Negative Wassermann.

2. Private, Seventh Infantry; 20 years old; disease became manifest a few months after enlistment. Tendency to and probably disease itself existed prior to enlistment; not in line of duty. In hospital unimproved. Negative Wassermann.

3. Recruit, —— Infantry; 23 years old; in service a few months when disease became manifest. Predisposition to and probably actual disease existed prior to enlistment; not in line of duty. Discharged from hospital as "social recovery," after about one year's stay. Negative Wassermann.

4. Quartermaster sergeant of a company in Twentieth Infantry; 35 years old. Disease arose more or less coincidently with acute rheumatism after over 12 years' service. Wassermann double-plus; spinal fluid normal. Discharged as "social recovery," after about one year's treatment. Arose in service, in line of duty.

5. Private, Twenty-first Infantry; age 25 years. Disease arose in first enlistment. Soldier always of a peculiar make-up. Not in line of duty. Wassermann negative. Discharged as a social recovery.

6. Private, 123 Co. C. A. C.; 24 years old. Disease arose in first enlistment. Based on constitutional defect; not in line of duty. Remains in hospital, slightly improved. Wassermann negative.

7. Private, Seventeenth Infantry. Arose less than one year after enlistment, either existed prior thereto or based on inherent defect, not in line of duty. Wassermann negative. Discharged as "social recovery."

8. Private, Sixteenth Infantry; 30 years old. Disease arose after several years' service; in line of duty; remains in hospital unimproved.

9. Private, Sixteenth Infantry; 24 years old; arose in first enlistment; not in line of duty. History indicates that it arose on a defective basis. Wassermann negative. Remains here unimproved.

10. Private, Fifteenth Infantry; 33 years old; arose in service after more than eight years' service in line of duty. Wassermann negative. Remains here unimproved.

11. Private, Forty-seventh Company, C. A. C.; 26 years old; arose in second enlistment; no evidence of defect in his previous history; in line of duty. Wassermann negative. Remains here unimproved.

12. Private, One hundred and thirtieth Company, C. A. C.; age 32; in first enlistment; no definite history of mental disease prior to enlistment, but some pointing to mental abnormality. From lack of evidence must be called in line of duty. Remains here unimproved. Wassermann negative.

Hebephrenic dementia precox: 1. Private, Twenty-seventh Infantry; 33 years old; in first enlistment. Disease became manifest early in enlistment period. Existed prior to enlistment; not in line of duty. Wassermann negative. In hospital, unimproved.

2. Private, C. A. C.; 29 years old; in first enlistment. Disease existed prior to enlistment. Wassermann negative. Remains in hospital unimproved.

3. Private, Fifth Infantry; 28 years old; in service several years, and a hard drinker. Barely received "good" character on his discharges. Disease became manifest early in 1913; arose in service; in line of duty. Steadily deteriorating. Negative Wassermann.

4. Private, Twenty-eighth Infantry; 22 years old; in first enlistment. Disease existed prior to enlistment; not in line of duty. A

moderate grade of improvement has occurred. Negative Wassermann.

5. Private, C. A. C.; 27 years old. Arose in second enlistment; in line of duty. Patient a good soldier in a limited way. Never of a high order mentally. Discharged as a "social recovery." Wassermann negative.

6. Private, Fifteenth Infantry; age 27. Disease arose in second enlistment, and is in line of duty. Wassermann negative. Remains here unimproved.

7. Private, Ninth Infantry Band; 26 years old; in first enlistment. Disease existed prior to enlistment. Wasserman negative. Discharged after a few months in hospital as a "social recovery."

8. Colored general prisoner, formerly in Ninth Cavalry. Diagnosis uncertain; probably belongs here; and was insane when he was sentenced. Improved and was discharged, but soon returned, and died of an intercurrent disease. Negative Wassermann.

9. Private, Thirteenth Infantry; age 28; who showed no symptoms here and was discharged as "not insane." From his history it seems that his was a precox case in remission. Originated in service. Wassermann negative.

10. Private, Seventh Infantry; 23 years old; in first enlistment; disease existed prior to enlistment; not in line of duty. Wassermann negative. Remains here somewhat improved.

11. General prisoner; age 24; disease existed prior to enlistment and desertion. Wassermann negative. Remains here progressively deteriorating.

12. Private, Seventh Infantry; age 36; in fifth enlistment when disease began. Had been a great abuser of alcohol for years. Arose in service, in line of duty. Wassermann negative. Remains in hospital unimproved.

13. General prisoner; age 27. Same remarks as in case 12.

14. General prisoner; age 24. Same remarks as in case 12, except that the Wassermann was double plus.

15. Private, C. A. C.; 19 years old; disease became evident shortly after enlistment and undoubtedly existed prior thereto. Discharged as a "social recovery." Wassermann negative.

16. General prisoner; age 25. Same remarks apply as in case 12.

17. First lieutenant, C. A. C.; age 39; two brothers had dementia precox. Evidence of mental disease present for past four years. Arose in service, in line of duty. He graduated from the academy and served several years before first signs of disease were evident. Discharged as "improved." Wassermann negative.

18. Private, G. S. I.; age 28; was in asylum in England in youth and in Canada subsequent to his first enlistment, which he served quite well. On his second enlistment when sent here; arose prior to

original enlistment, not in line of duty. Note the remissions. Negative Wassermann. Discharged as a "social recovery."

19. Private, Seventeenth Infantry; 36 years old. Disease arose six years ago just as he was completing an enlistment. Remained out of service for five years getting along in the world. Then reenlisted and had to be sent here. Arose in service in line of duty. Wassermann negative. Discharged as "social recovery."

20. General prisoner; age 28. Same remarks apply as in case 12.

21. Corporal, Sixteenth Infantry: age 24; in first enlistment. Disease appears to have been present in a mild form prior to enlistment. Wassermann double plus. Spinal fluid negative. Considered peculiar from time he joined his company. Remains in hospital unimproved.

22. Private, Ordnance Department; age 26; in second enlistment. So far as history can be gotten disease arose in service in line of duty. Remains here unimproved. Wassermann negative.

23. Civilian teamster; 35 years old. Disease appears to have existed since 1904. Wassermann negative. Only required institution care about one year ago. Remains here unimproved.

24. Private, G. S. I.; age 26 years; in second enlistment. Disease considered in line of duty, as he had no trouble so far as we know in first enlistment. He, however, possesses a constitutional predisposition to the disease. Wassermann negative. Remains here somewhat improved.

25. Private, Twenty-sixth Infantry; in second enlistment. Disease was present late in first enlistment. Regarded as in line of duty. Remains here unimproved. Wassermann negative.

26. Private, C. A. C.; age 23; in second enlistment. Disease apparently arose in second enlistment and in line of duty. Wassermann negative. Remains here unimproved.

27. Private, Thirteenth Infantry; age 24; in second enlistment. Purchased discharge from first, after two years. Disease existed prior to enlistment. Remains here unimproved. Wasserman negative.

28. Private, Fourth Infantry; age 32; over 12 years service. Arose in service, in line of duty. He was never of a very high order mentally. Wasserman negative. Remains in hospital unimproved.

29. Private, C. A. C.; age 22; in first enlistment. Disease existed prior to enlistment; not in line of duty. Remains here unimproved. Wassermann negative.

30. Private, First Infantry; age 36; in second enlistment. Always an abnormal person; had mental breakdown at 21, probably precox; should be regarded as not in line of duty. Wassermann negative. Remains here somewhat improved.

31. Private, C. A. C.; age 25 years; an inherently defective person who had never held independent employment. In first enlistment and breakdown was early. Not in line of duty. Wassermann negative. Remains here unimproved.

32. Private, Twenty-fourth Infantry; 30 years old; arose in second enlistment undoubtedly in an abnormal personality. One I think with a criminal record. From lack of evidence to the contrary, however, it is considered in line of duty. Wassermann negative. Remains here unimproved.

33. Private, Fifth Infantry; age 29; a case very difficult to say if in line of duty or not. Probably it is not. He was no doubt originally a defective but succeeded in finishing his first enlistment without serious trouble, though he showed some symptoms. Marked trouble began early in his second enlistment. Probably it should be noted as not in line of duty. There is some reason to think he had precox early in manhood, but conclusive evidence is lacking. Wassermann negative. Discharged to his people as a "social recovery."

Hysterical psychosis: 1. Private C. A. C.; age 24; arose early in first enlistment. Had at least two similar attacks prior to enlistment; not in line of duty. Wassermann negative. Had recovered on arrival here and was discharged as "not insane since here."

2. Private, C. A. C.; age uncertain; in early twenties. In second enlistment; always an abnormal person mentally. Based on predisposition and heredity; not in line of duty. Wassermann negative. Recovered and was discharged.

3. General prisoner; age 25; arose in prison based on degenerative make-up; recovered and returned to prison. Wassermann negative.

4. Private, Twentieth Infantry; arose after a number of years' service. Was considered to be in line of duty. Recovered, apparently, and was discharged. There was some reason to believe him to have precox, but the evidence was insufficient. Wassermann negative.

5. United States prisoner (former soldier), who had a hysterical psychosis of stuporous type following murder of comrade by him. An inherently unstable person. Wassermann negative.

Alcoholic and psychopathic states: 1. Private, C. A. C.; 26 years old; in first enlistment. A psychopathic personality, who had a precox-like episode prior to arrival here. Probably due to alcohol, an abnormal reaction to same. Not in line of duty. Had recovered from this episode on arrival here, and discharged as "not insane."

2. Private, C. A. C.; several enlistments; had an alcoholic psychosis of some kind prior to arrivel here. Not insane while here. Due to alcohol, not in line of duty. It was probably a mild alcoholic hallucinosis.

3. Private, C. A. C.; age 26; who had some psychotic episode prior to arrival here. Its exact nature could not be determined. He was

previously a very defective individual, and on this basis his upset arose. Not in line of duty. Discharged as "not insane since here."

4. Private, Cavalry; 27 years old; had a precox-like condition based on inherent degeneracy. Made a social recovery and so discharged. Not in line of duty.

5. Private, Infantry; 43 years old; a chronic alcoholic; had a severe attack of delirium tremens from which he had recovered when he reached us. Owing to the fact that he had less than one year to serve before retirement he was returned to duty on our recommendation. Subsequent history unknown.

6. Very degenerate type of person. Private, Cavalry, who had a "traumatic hysteria." Discharged as recovered. Wassermann negative. His trouble seemed to have followed blows and falls received when intoxicated; not in line of duty.

Paresis: 1. Private, formerly N. C. O. in Infantry. Single; over 12 years service; 37 years old. Always considered a little peculiar and a rather heavy drinker. Disease manifest several months prior to admission. Expansive type of general paresis. Wassermann reaction with blood serum, double plus. Wassermann reaction with spinal fluid, double plus. Fluid clear, protein content increased, over 300 cells per cubic millimeter.

2. Corporal in Infantry; 43 years old; in service a long time. Single. History of treatment for syphilis, perhaps prior to enlistment; date uncertain. Expansive type of paresis. Wassermann with blood serum, double plus. With spinal fluid, double plus. Fluid clear, protein content increased. Cells per cubic millimeter, 94. Died 15 months after admission.

3. Colored, private, Mounted Service School detachment. Age 27; said to have been married. Date of luetic infection unknown. Expansive type of paresis. Had been in service several years. Wassermann with blood serum, double plus. With spinal fluid, double plus; spinal fluid clear; protein content increased. Cells per cubic millimeter, 60. Died 15 months after admission.

4. Private, Hospital Corps; age 29; single; relatively short time in service; acquired lues prior to enlistment. Agitated type of paresis, in state of wildest excitement for two months subsequent to admission, at end of which time he died. Wassermann with blood serum double plus, with spinal fluid double plus, spinal fluid clear, protein content increased; cells per cubic millimeter, 30. History indicated that the disease had existed at least one year before admission.

5. Sergeant, C. A. C.; 12 years in service; married; age 30; a most excellent soldier; no history of infection. Evidence of disease noted a few months only before admission. Was a typical instance of de-

menting type of paresis. Died eight months after admission. Wassermann, with blood serum double plus, with spinal fluid double plus, spinal fluid clear, protein content increased; cells per cubic millimeter, 20.

6. Private, Cavalry; single; age 44; long service; no history as to time of infection. Disease had existed perhaps a year before admitted. Died 10 months after admission. Wassermann with blood serum double plus, with spinal fluid double plus, fluid clear, protein content increased; cells per cubic millimeter, 302.

7. Private, Infantry; single; age 48; long service; date of infection unknown. Disease had existed more than one year when admitted. Died five months subsequent to admission. Wassermann with blood serum double plus, with spinal fluid double plus, fluid clear, protein content increased; cells per cubic millimeter, 78.

8. Colored private, Army Service School Detachment; age 38; in service a long time. Duration of disease on admission uncertain. This patient was at times somewhat depressed and hypochondriacal. Died less than five months after admission. Wassermann with blood serum double plus, with spinal fluid double plus, fluid clear, protein content increased; cells per cubic millimeter, 16.

9. Private, C. A. C.; single; age 38; in service a number of years. Disease duration uncertain. Died suddenly with convulsions less than a month after admission. Wassermann with blood serum double plus, with spinal fluid nearly double plus, fluid clear, protein content increased; cells per cubic millimeter, 41.

10. First lieutenant, Infantry; recently married; age 29; believed to have acquired lues as a cadet, but this is not certain. Disease had existed at least six months prior to admission. Discharged in care of his family a few months after admission and his subsequent history is unknown. Wassermann with blood serum double plus, with spinal fluid single plus, spinal fluid clear, protein content increased; cells per cubic millimeter, 40. Simple dementing type of the disease.

11. Private, Hospital Corps; age 29; single; several years' service; dementing type of paresis. Steadily deteriorated while here; was taken home after a few months by his parents. Subsequent history unknown. Wassermann with blood serum weak to single plus, with spinal fluid the same, fluid clear, protein content increased; cells per cubic millimeter, 70.

12. Private, Infantry; single; age 33; several enlistments; is still living, but much deteriorated mentally and physically. Origin of disease a few months prior to admission in May, 1913. Wassermann with blood serum double plus, with spinal fluid double plus fluid clear, protein content increased; cells per cubic millimeter, 180. Dementing type.

13. Colored private, Cavalry; age 35 years; single; expansive type of paresis. Died 18 months after admission. Wassermann in blood serum double plus, with spinal fluid double plus, fluid clear, protein content increased; cells per cubic millimeter, 190.

14. Post quartermaster sergeant; married; age 47; more than 20 years' service; dementing type of paresis. History indicates that the disease existed for about two years prior to admission. Died 13 months after admission. Wassermann double plus, with blood and spinal fluid, latter clear, protein content increased; about 30 cells per cubic millimeter.

15. Private, Infantry; over 10 years' service; age 32; married. Simple dementing type of paresis. Wassermann with blood serum double plus. With spinal fluid double plus, fluid clear, protein content increased; cells per cubic millimeter, 120. Living 16 months after admission; disease is progressing slowly. Had been in existence at least four months on admission.

16. Sergeant, colored, Cavalry; age 40; over 20 years' service; had lues in 1902; took treatment for one or two years; paresis first evident one year prior to admission. Simple dementing type of the disease. Living 20 months after admission; condition gradually deteriorating. Wassermann with blood and spinal fluid double plus, fluid clear, protein content increased; over 30 cells per cubic millimeter.

17. Private, Infantry; 27 years old; single; in second enlistment. Mental condition reminds one very much of an irritable catatonic precox patient. Wassermann with blood serum prior to admission double plus. Was given salvarsan. After admission Wassermann was negative with both blood and cerebrospinal fluid; fluid was clear, protein content increased; cells per cubic millimeter, 170. Perhaps the salvarsan influenced the Wassermann results. No doubt as to the diagnosis.

18. Private, Infantry; single; age 40 years; dementing type of disease. Wassermann with blood serum double plus, with spinal fluid double plus, fluid clear, protein content increased; cells per cubic millimeter, 68. Living nine months after admission; much deteriorated.

19. Private, C. A. C.; about 30 years old; several enlistments; single; history of lues; on admission showed the clinical picture of expansive paresis. Living 14 months after admission; outwardly very much better. Wassermann with blood serum double plus, with spinal fluid uncertain, fluid clear, protein content increased; cells per cubic millimeter, 52. Later examination showed same result, but cells numbered 70, may be lues cerebri, but most likely paresis, and the improvement is a remission. Pupillary and other neurological signs unchanged.

Cerebrospinal syphilis: 1. Corporal, C. A. C.; age 29; clinically shows aphasia and deterioration. Wassermann with blood serum double plus, with spinal fluid negative, protein content increased; cells per cubic millimeter, 14. During 18 months, intensive treatment has produced little or no improvement.

2. Private, Infantry: Age 45 years; many years' service; lues in 1898. Marked mental deterioration and chronic alcoholism. Wassermann with blood serum, weak to single positive; spinal fluid negative; clear, protein content increased, cells per cubic millimeter 41. During 9 months treatment has done no good.

3. Colored private; age 32; several years' service; excited, delusional, hallucinated, much deteriorated mentally. Died less than one year after admission. Wassermann with blood serum, double plus, with spinal fluid negative, fluid clear, cells per cubic millimeter 175, protein content increased. Died in convulsions simulating status epilepticus.

Wassermann tests and examinations of cerebrospinal fluids done by Dr. William H. Hough. The Wassermann results here given are those obtained using the small amounts (0.4 c. c.) of spinal fluid in making the tests. It is important to remember this. If larger amounts are used the reaction is apt to be double plus in cerebral lues as well as in general paresis.

Quite a number of the cases in which the disease is noted as having existed a long time prior to admission had been detained at the Lettermann General Hospital awaiting transportation East.

Briefly reviewed, it is found that the one case of paranoia had existed prior to enlistment, one case of manic depressive was in line of duty and one was not.

Of the two more or less unclear conditions diagnosed "paranoid state" one was regarded as line of duty, because of long service; the other without doubt had existed prior to enlistment.

The paranoid dementia precox cases showed three which were in officers and soldiers of long service and should be regarded as in line of duty. The other two had existed prior to enlistment.

The catatonics gave 6 cases in line of duty and 6 not. The hebephrenics gave 13 cases in line of duty and 13 not. Seven of them were not in service—6 general prisoners and 1 civilian employee.

It should be remembered that a much larger percentage of cases of precox are not in line of duty than are indicated by these figures. Only a few cases of precox which are regarded by medical officers at posts as "not in line of duty" are now sent here, so that if the quite large number returned to their homes be added the per cent of "not in line of duty" will mount appreciably. In quite a few of the cases which are here regarded as "in line of duty" we were morally cer-

tain that the condition would have been more correctly recorded as "not in line of duty" but, giving the soldier the benefit of the doubt, marked it as incident to service.

We think that careful search will show that most cases of precox arising in the first enlistment and early in the second are not in line of duty. If the soldier has been longer in service the contrary may be the case. In deciding this point the careful taking of the personal history is of the utmost importance.

As our figures show, nearly all hysterical conditions arise early in service and are as a rule not in line of duty. Two of our cases were in others than enlisted men.

Quite evidently alcoholic psychoses and psychotic conditions arising in degenerates and persons constitutionally inferior are not in line of duty.

Deducting the 22 cases of cerebral lues and paresis we have found a positive Wassermann reaction with the blood in only 3 of 67 other cases. At least 3 others had a clear history of syphilis.

The Wassermann results in the paresis and cerebral lues cases are given in detail above.

We have regarded these two conditions as not in line of duty unless evidence was discovered that the infection was innocently acquired. So far no innocent infections have reached us if our histories are correct. It does not seem to us correct to record these cases in line of duty, because of inability to prove positively that their disease is due to syphilis, not acquired innocently. There seems to us to be no reasonable doubt that the contrary is the case in practically all cases. We do believe, however, that where the service is long, record good, etc.—that is, in deserving cases—that some relief should be afforded to enlisted men by executive or legislative action, as has been done in similar cases arising in commissioned officers.

Chapter XI.

SUMMING UP.

In concluding this work we wish to emphasize certain points. A reading of the literature of psychiatry shows that many observers, studying the same character of clinical material, classify the cases differently. This variety of view point, as it were, is particularly true when we come to read the vast number of articles dealing with the so-called "functional" psychoses. There is considerable unanimity in respect to the psychoses which are associated with demonstrable organic disease of the brain such as paresis, arteriosclerosis, etc. The chief "functional" psychoses are the great group, dementia precox; then the manic depressives, the paranoid mental states, and certain hysterical and psychogenic disorders.

Now, by what names shall we designate our mental cases when we meet them in the service and must arrive at some diagnosis, perhaps with but little opportunity for study and observation?

It matters in reality but little what name we use, provided we all use a similar one and that the name given represents the same thing in the mind of each medical officer when he uses it. No effort will be made here to give a classification which will include all cases met with in a large institution, but the terms here given will be found to include nearly all seen in military psychiatry.

By far oftenest we will find use for the term dementia precox. The increasing experience of students of mental diseases leads more and more to the conclusion that Kraepelin was right when he separated out from the great mass of "functional psychoses" those characterized by the type of disease picture given in Chapter I, and called them a disease entity, naming it "dementia precox." We are perfectly justified in believing that dementia precox is the first condition to be thought of when a soldier under 35 years of age is believed to suffer from mental disease. The same is of course true of civilians. L. L. Smith's figures (1905 to 1910) show that 47 per cent of all admissions here from the military service were of that disease. My own are given in the text. Adding the cases not sent here, but otherwise disposed of, it seems that we are perfectly justified in believing that not less than 60 per cent of all persons becoming insane in the military service suffer from one of the forms of dementia precox.

Manic-depressive psychosis will not, we think, very often be seen. All should remember that the mere fact that the patient is emotionally exalted or depressed does not mean that he has manic depressive.

Exaltation and depression are merely symptoms and may be seen in almost any mental disease at times. We suggest that medical officers will find it much more desirable not to use the terms "acute mania," "acute melancholia," or even "melancholia." Certainly they are not so good or so useful as the following terms now used in many hospitals and here suggested as very valuable for military surgeons.

If the chief symptom of the patient is emotional depression and for any reason a definite diagnosis of one of the known disease entities can not be made, in other words, when the patient is depressed and the diagnosis is in doubt, call it a "depression, undifferentiated," and put down in his history the disease manifestations. If, on the contrary, emotional exaltation is the paramount symptom, but a definite diagnosis can not be reached, record all the facts in his history and diagnose the case as an "excitement, undifferentiated."

If for any reason a case is especially obscure and there are no predominating features, and yet the patient seems without doubt mentally diseased or abnormal and a diagnosis must be made, why not call it a "psychosis undifferentiated," recording all available information in the history?

The terms "depression" and "excitement," "undifferentiated," have an advantage over the terms "mania" and "melancholia," and their variations in that they have never been used to represent disease entities, and hence are confessedly and frankly symptomatological, indicate that the first observer was prevented from fathoming the case and invite further study by subsequent observers in order to discover the actual basis for the emotional change. The same applies to the use of the term "psychosis, undifferentiated."

The term "paranoia," if our experience is correct, will not often be needed by military surgeons. Paranoid disease pictures are, however, not infrequent. The most of them belong in the "paranoid" precox group. There are occasional cases of "true paranoia," but less than one per year reaches us here. In armies, prisons, and in fact under any form of stress or restriction of individual liberty of action certain susceptible persons develop states in which they believe themselves persecuted, may be exalted and have auditory and visual hallucinations, especially auditory. When such arise and can not be placed in any definite disease group it is better to call it a "paranoid state," and record a careful history.

Paranoid symptoms may arise in the course of nearly any psychosis in isolated cases; then, of course, it is only a part of the

symptomatology. Chronic alcoholics and cocaine habitues not rarely develop "paranoid states."

The above given terms, and others to be found in the text, will, we think, be all that will be ordinarily required in reporting the "functional" psychoses.

The psychoses associated with organic brain disease of various types are more or less common in military practice.

For the most common one we have a name whose meaning is universally known—general paresis. This, according to our experience, accounts for from 16 to 20 per cent of our insane each year.

The other organic brain diseases which may at times cause a psychosis in their victim are best reported, we think, as given below.

Cerebral lues in very many persons may be present but cause no psychosis, in others it does. Hence if we diagnose the case as "cerebral syphilis" or similar term, no indication of the presence of mental disorder is given, but if we say "psychosis associated with cerebral syphilis" we do. If the mental picture be clearly marked the words "depression," "excitement," "deterioration," "paranoid state," or other term may be added, making it to read "psychosis associated with cerebral lues" (paranoid state, etc., as the case may be). Perhaps the first form is preferable as a diagnosis, the various manifestations being fully given in the history. Cerebral lues gives from 1 to 3 per cent of our yearly insane.

In recording other psychoses associated with organic brain disease a similar form may be used.

Cerebral arteriosclerosis gives us a certain number of mental cases each year. We have seen three at the Walter Reed Hospital during the past year in officers on the active list, and more than half a dozen in retired officers and enlisted men. These cases are not infrequent at the various soldiers' homes, where large numbers of old men are congregated.

Chronic alcoholism is a soil on which varied mental pictures may arise, the best known being "delirium tremens," "acute hallucinosis," and "the Korsakow symptom-complex." Mental deterioration (dementia) of varying degrees, delusions of jealousy, paranoid states with or without hallucinations, states much resembling general paresis, usually referred to as "pseudo-paresis" and epileptoid convulsions (alcoholic epilepsy). Other combinations of mental symptoms are no doubt reported, but the above are the prinicpal ones. The above named states when seen with alcohol as the etiological factor are always in those who have reached the stage of chronic alcoholism. We think that we are correct in saying that unless the patient is a chronic alcoholic, that alcohol can not be considered to be the etiological factor in such states as are above outlined. It might be an exciting factor in producing mental states superficially

resembling some of the above, but as given they essentially are to be found in the chronic alcoholic. In order to emphasize the alcoholic feature it is suggested that such cases be reported as "psychoses associated with chronic alcoholism" (delirium tremens, etc., as the case may be).

If a psychotic state be produced by the use of other toxic agents, such as cocaine, morphine, etc., a similar form of diagnosis makes the case clear.

The forms of organic brain injury noted above are the ones with which we are most apt to meet. More rarely brain tumors, chorea, abscesses, trauma, multiple sclerosis, etc., may give rise to varying forms of mental disturbance which may well be recorded as suggested above. Aside from trauma in time of active service these are of no great importance in point of frequency.

"Idiopathic" epilepsy is the assigned cause of discharge in from 40 to 60 certificates of disability each year. Peterson in his latest textbook states that about 10 per cent of all epileptics become insane, which is no doubt true, but our epileptics as seen in the service are seldom so, if we judge by the admissions to this hospital. Only one case has been received from the service during the past two years.

The forms of psychosis caused by epilepsy are well enough given in available textbooks. We suggest that in recording such cases the following as useful:

Psychosis associated with epilepsy (mental deterioration, acute confusion, etc., as the case may be).

We have no exact figures to indicate how frequently imbeciles and morons are enlisted, and subsequently require discharge, but in our service with troops several instances have been observed; enough to warrant the statement that in any fair-sized increment of recruits coming to a regiment one or two might be found. We suggest that in recording the diagnosis the terms "congenital mental deficiency" (moron or imbecile as the case may be) are good.

In recording the diagnosis in the case of the great borderland class denominated in the text "persons of psychopathic make-up of different types," there may be some dispute as to whether any one word or set of words is suitable. It will be recalled that these persons as we now are speaking of them do not suffer from any form of psychosis (they are liable to various forms); hence are not legally, perhaps not even medically, to be regarded as insane. Nor are they lacking in intellect, quantitatively speaking, as are the imbeciles and morons. Their abnormality is a qualitative one, which renders them incapable in many instances of more than approximating the course of life pursued by the great majority of persons (hence to be considered the normal course). If we look upon an individual's life as being made up of his reaction to all of the events (stimuli) with

which he comes in contact either in the external world or arising from within himself then the qualitatively abnormal is so constituted that, according to the degree of his variation, he reacts to part or all of the events of life quite differently than does the normal unit.

Now, assuming that a soldier (or for that matter an officer) reacts habitually in an abnormal manner to events in his daily life to such an extent as to make him relatively useless, perhaps obnoxious or dangerous, or not to be trusted, at all events entirely unsuited for military service, and we find that he is not insane, not an imbecile or a moron; assuming further that it is found that he is proof against admonition, that endeavors to teach him to behave in a normal manner are unsuccessful; that rebuke, reprimand, company discipline, and punishment by court-martial sentence only temporarily or not at all improve his mode of reaction to his surroundings: Will we not ask ourselves, why does he not behave as do the great majority? Why is it that his conduct and thought (mode of reaction) are so different?

It may, of course, be answered that it is "cussedness," but the difficulty is only once removed.

Now, his life history should be carefully taken and it will probably show that from childhood or youth he has shown the same abnormal type of reaction as during his military service. We think that this is sufficient evidence to show that his difficulty is "constitutional"—that is, an abnormality of make-up. Whether this is congenital—that is, due to inherent defect—or acquired through faulty training or early or subsequent poor environment, makes little difference for our present purpose. The facts are that the cause of his military and civil inefficiency is constitutional, and that it is at the time he is seen a mental aberration; hence we propose that the term "psychopathic constitution" is probably the best general term to use in describing these people. Qualify the term as the eccentricities of the individual indicate; for example, if the abnormality is of a hysterical type, say "psychopathic constitution" (hysterical), and so on, as the case may be. If these men eliminate themselves by court-martial or otherwise we see no objection. But if they do not they should be discharged on surgeon's certificate of disability, not in line of duty.

It seems to us that the above suggested terms will, if used uniformly, be sufficient to designate most of the psychotic or other abnormal mental states arising in military practice and they are for that reason offered. The mental disturbances arising during prolonged and exhausting diseases and from severe infections may at

intervals be seen during peace. They do not reach us at this hospital. They should be remembered.

Mental inefficiency due to alcohol is such a wide field that the limits of this work do not permit its consideration in extenso. Very few cases come to this hospital from the services in which alcohol is the sole etiological factor in the psychosis. The most of such are disposed of in the service hospitals.

The effect of war upon the mind of officers and enlisted men and its influence upon the number of cases of mental diseases arising; that is, whether they are increased or diminished, the types of mental disorder arising during war and whether and in what way they vary from the types arising during peace are to us highly interesting topics, but we have at present no very definite ideas to offer upon the subject. We are collecting data and studying it and if any new conclusions can be drawn which are useful they will be offered to the service.

Another interesting problem which has suggested itself to us for study may be stated somewhat as follows: If in event of war we should be called upon to examine and enlist large bodies of troops how many in each thousand should we expect to find mentally incapacitated? We do not know this with any definiteness. Perhaps we may find some interesting facts in regard to this point which can be offered later.

At present we do not feel that we have made sufficient investigations into the experiences of the past to offer any especial remarks upon the care of the insane during war. This, as well as the problem of the early recognition of the same, are being studied and if anything worth while is discovered it also will be submitted to medical officers. The effect of a state of war, including in many instances during active campaign short rations, loss of sleep, great emotional tension, exhausting exposure to the elements, cold or heat, debilitating diseases (much less we hope in future than in past wars), not infrequently excessive physical exertion, homesickness, etc., in producing mental incapacity are points worthy of most careful study because of their importance in deciding whether or not the mental disease is in line of duty.

We will present whatever can be learned or devised in regard to the above questions at some future period provided the material is of sufficient value to warrant publication.

We wish to thank the superintendent and staff of the Government Hospital for the Insane for their uniform courtesy, help, and encouragement during our service there.

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